ΓΕΩΓΡΑΦΙΚΑ ΧΡΟΝΙΚΑ

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ΔΕΛΤΙΟΝ
ΓΕΩΓΡΑΦΙΚΟΥ ΟΜΙΛΟΥ ΚΥΠΡΟΥ

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ΕΞΑΜΗΝΙΑΙΟΝ ΟΡΓΑΝΟΝ
ΤΟΥ ΓΕΩΓΡΑΦΙΚΟΥ ΟΜΙΛΟΥ ΚΥΠΡΟΥ

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Γεώργιος Καρούζης
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Νίκος Γεωργιάδης
'Ανδρέας Χρίστου

Διευθυντὴς Συντάξεως:
Α. ΚΛ. ΣΟΦΟΚΛΕΟΥΣ

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Τύποις ΖΑΒΑΛΛΗ ΛΤΔ., Λευκωσία.

ΠΡΟΛΟΓΟΣ

Στὸ πρῶτο τεῦχος τῶν «ΓΕΩΓΡΑΦΙΚΩΝ ΧΡΟΝΙΚΩΝ» εἴχαμε πῆ πὼς ἀρχικὰ θὰ κυκλοφοροῦσαν μιὰ φορὰ τὸν χρόνο, μὲ τὴν εὐχὴ καὶ τὴν ὑπόσχεση πὼς θὰ καταβαλλόταν κάθε προσπάθεια ὥστε νὰ κατορθωθῆ ἡ ἔκδοσή τους δυὸ φορὲς τὸ χρόνο.

Βρισκόμαστε τώρα στὴν εὐχάριστη θέση νὰ παραδώσουμε στοὺς ἀναγνῶστες μας τὸ δεύτερο τεῦχος τῶν «ΓΕΩΓΡΑΦΙΚΩΝ ΧΡΟΝΙΚΩΝ» μέσα στὸ 1971, τηρῶντας ἔτσι τὴν ὑπόσχεσή μας.

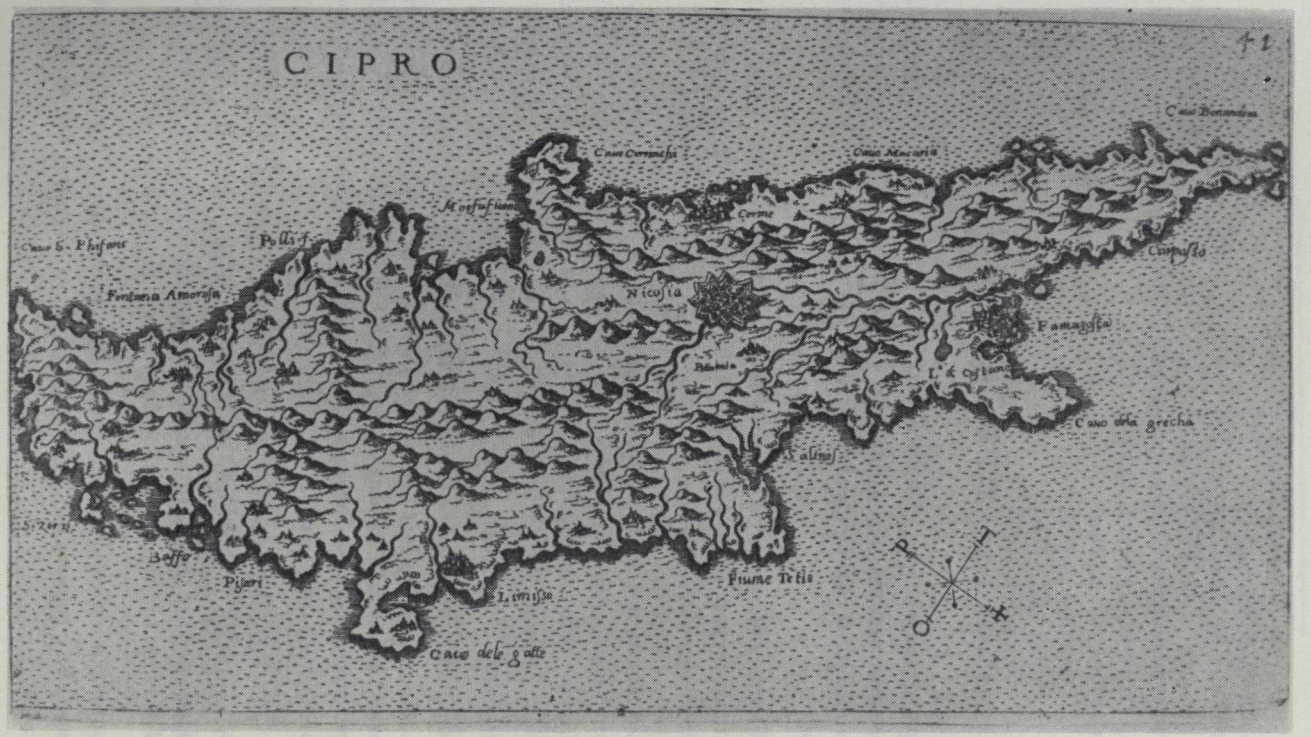
Τὰ καλὰ λόγια καὶ οἱ ἐπαινετικὲς κριτικὲς ποὺ γράφτηκαν καὶ εἰπώθηκαν γιὰ τὸ πρῶτο τεῦχος τοῦ περιοδικοῦ, τόσο στὸ ἐσωτερικὸ ὅσο καὶ στὸ ἐξωτερικό, μᾶς ἐνεθάρρυναν στὴν προσπάθειά μας καί, παρὰ τὰ μεγάλα οἰκονομικὰ βάρη, ἐλπίζουμε πὼς σύντομα θὰ ἐπιτύχουμε τὸν ὑψηλὸ στόχο μας: Τὴν τακτικὴ ἔκδοση τῶν «ΓΕΩΓΡΑΦΙΚΩΝ ΧΡΟΝΙΚΩΝ» τρεῖς φορὲς τὸ χρόνο.

Ἐλπίζουμε πὼς τόσο οἱ ἁρμόδιες Κυβερνητικὲς Ὑπηρεσίες, ὅσο καὶ τὰ μέλη τοῦ Γ.Ο.Κ. καὶ οἱ ἀναγνῶστες μας, ἐκτιμῶντας τὴν προσπάθειά μας αὐτὴ καὶ ἀναγνωρίζοντας τὴ μεγάλη συμβολὴ τῶν «ΓΕΩΓΡΑΦΙΚΩΝ ΧΡΟΝΙΚΩΝ» στὴν πνευματική, πολιτιστικὴ καὶ ἐπιστημονικὴ πρόοδο τοῦ τόπου, θὰ βοηθήσουν στὴν ἐπίτευξη τοῦ ὑψηλοῦ μας στόχου.

Ἀρκεῖ νὰ σημειωθῆ πὼς τὰ «ΓΕΩΓΡΑΦΙΚΑ ΧΡΟΝΙΚΑ» εἶναι τὸ μόνο γεωγραφικὸ περιοδικὸ σ' ὁλόκληρο τὸν ἑλληνικὸ χῶρο. Σ' ἕνα χῶρο ποὺ ἡ ἐπιστήμη τῆς Γεωγραφίας βρίσκεται σήμερα ἀκόμη στὰ σπάργανα, ἄνκαι ἡ Ἀρχαία Ἑλληνικὴ Γεωγραφικὴ παράδοση βαραίνει στοὺς ὤμους ὅλων μας.

Ἡ ἀποστολή των, λοιπόν, εἶναι ὑψηλή. Ὁ σκοπὸς ἱερός. Ἐμπρός, λοιπόν! Γιὰ τὴν ἐξάπλωση τῆς γεωγραφικῆς γνώσης! Γιὰ νὰ ξεχαστῆ πιὰ τὸ «πᾶς Ἕλλην ἀγεωγράφητος».

ΕΚΔΟΤΙΚΗ ΕΠΙΤΡΟΠΗ



'Αρχαῖος Χάρτης τῆς Κύπρου δεικνύων τὴν ἐντὸς τῶν τειχῶν Λευκωσίαν καὶ ἐνδιαφέροντα γεωμορφολογικὰ φαινόμενα.

ΧΑΡΤΟΓΡΑΦΗΣΙΣ ΧΡΗΣΕΩΣ ΓΗΣ

Ὑπὸ Γ. ΚΑΡΟΥΖΗ
Προέδρου Γεωγραφικοῦ Ὁμίλου Κύπρου.

1. Εἰσαγωγὴ

Ἡ χαρτογράφησις χρήσεως γῆς ἐπὶ καταλλήλου κλίμακος ἔχει τονισθῆ εἰς πολλὰ διεθνῆ συνέδρια, τόσον τοῦ Ὀργανισμοῦ Τροφίμων καὶ Γεωργίας ὅσον καὶ τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως, ὅτι ἀποτελεῖ ἐπιβεβλημένον καθῆκον κάθε χώρας, ἥτις προγραμματίζει ἐπὶ ὑγιῶν βάσεων τὴν οἰκονομικήν της ἀνάπτυξιν. Τὸ 1949, ὅτε συνεκροτήθη τὸ Παγκόσμιον Γεωγραφικὸν Συνέδριον εἰς Λισσαβῶνα, εἰδικὴ ἐπιτροπὴ ἐξουσιοδοτήθη ὅπως ἐνθαρρύνη διαφόρους χώρας εἰς τὴν χαρτογράφησιν χρήσεως γῆς. Ἔκτοτε σημαντικὴ ἐργασία εἰς τὸν τομέα αὐτὸν ἔχει ἐπιτευχθῆ.

2. Ἀναδρομὴ εἰς τὴν Χαρτογράφησιν χρήσεως γῆς ἐν Κύπρῳ

Εἶναι γνωστὸν ὅτι ἡ Κύπρος δὲν ἔχει εἰσέτι χαρτογραφηθῆ ἐπὶ μεγάλης κλίμακος. Αὐτὸ σημαίνει ὅτι διὰ τὸν προγραμματισμὸν τῆς Ἐθνικῆς μας οἰκονομίας ἐλλείπουν πολλὰ ἀγρο-οἰκονομικὰ στοιχεῖα, ἅτινα τόσον ἀφθονοῦν εἰς διαφόρους χώρας τῆς Εὐρώπης. Παρ' ὅλα ταῦτα θὰ ἔπρεπε νὰ ἀναφερθῶσιν αἱ προσπάθειαι καὶ τὰ ἐπιτεύγματα κατὰ τὰς τελευταίας ὀλίγας δεκαετίας τόσον τῶν πρωτοπόρων Κυπρίων καὶ ξένων χαρτογράφων πρὸς τὴν κατεύθυνσιν αὐτήν, ὅσον καὶ τῆς Κυπριακῆς Δημοκρατίας.

Αἱ ἐνέργειαι αὗται δύνανται νὰ συνοψισθῶσιν ὡς ἀκολούθως:

(α) Ὁ Δρ. Δ. Χριστοδούλου ἔχει χαρτογραφήσει διάφορα χωρία τῆς Κύπρου ἐπὶ τῶν γνωστῶν χωρομετρικῶν σχεδίων κλίμακος 1:5,000 καὶ 1:2,500. Τὸ καλύτερον παράδειγμα εἶναι ἐκεῖνο τῆς Ἀνάγειας τὸ ὁποῖον ἐχαρτογραφήθη ἀπὸ κοινοῦ μὲ τὸν Κ. Γεωργιάδην τὸ 1951 καὶ τὸ ὁποῖον εἶναι γνωστὸν εἰς ἡμᾶς ἐπὶ τῆς κλίμακος 1:12,500.

(β) Ἕνας πολὺ γνωστὸς χάρτης χρήσεως γῆς ἔγινε ἀπὸ τοὺς R. Rawson καὶ K. Sealy τοῦ Πανεπιστημίου τοῦ Λονδίνου τῇ συμμετοχῇ τοῦ Δρος Χριστοδούλου, ἐπὶ κλίμακος 1:250,000 μὲ χρῆσιν ἀεροφωτογραφιῶν. Αἱ ἀεροφωτογραφίαι ἐλήφθησαν τὸ 1949, ἡ δὲ κλεῖμαξ τοῦ παραχθέντος χάρτου κάθε ἄλλο παρὰ βοηθητικὴ εἶναι διὰ λεπτομερῆ προγραμματισμόν.

(γ) Ὁ χάρτης ἐπισκοπήσεως βοσκοτόπων ἔγινε ἐπὶ κλίμακος 1:50,000 δι' ὅλην τὴν Κύπρον καὶ ἔχουν χρησιμοποιηθῆ ἐν ὅλῳ 16 φύλλα. Καὶ εἰς τὴν περίπτωσιν αὐτὴν ἔχουν χρησιμοποιηθῆ ἀεροφωτογραφίαι. Ὁ Χάρτης τοῦτος ἔγινε διὰ λογαριασμὸν τῆς Κυπριακῆς Κυβερνήσεως ὑπὸ τοῦ οἴκου Huntings Technical Services. Αἱ ἀεροφωτογραφίαι ἐλήφθη-

σαν τὸ 1955, ἡ κλῖμαξ τοῦ χάρτου εἶναι σχετικῶς μικρὴ καὶ ὁ σκοπός τῆς χαρτογραφήσεως δὲν ἦτο καθαρῶς περὶ χρήσεως γῆς, ἀλλὰ περὶ ἐπισκοπήσεως νομευτικῶν περιοχῶν.

(δ) Τὸ 1957, ἤρξατο τοπογραφικὴ χαρτογράφησις τῆς Κύπρου, μὲ σκοπὸν νὰ παραχθοῦν 59 φύλλα κλίμακος 1:25,000 καὶ ἀρκετὰ ἄλλα κλίμακος 1:10,000. Ἡ χαρτογράφησις ἔγινε μὲ ἀεροφωτογραφίας ὑπὸ τοῦ Κτηματολογικοῦ καὶ Χωρομετρικοῦ Τμήματος καὶ περιέχει μερικὴν μόνον χρῆσιν γῆς. Δυστυχῶς τὸ 1960 ἡ ἐργασία διεκόπη καὶ μόνον 21 φύλλα ἀπὸ τὰ 59 παρήχθησαν, ὡς καὶ μερικὰ ἄλλα κλίμακος 1:10,000. Καὶ ἐὰν συνεπληροῦτο ἡ ὅλη ἐργασία, ἡ ὠφελιμότης τῆς χαρτογραφήσεως ὅσον ἀφορᾶ τὴν χρῆσιν γῆς θὰ ἦτο μικρᾶς σπουδαιότητος.

(ε) Τὸ Τμῆμα Ἀναπτύξεως Ὑδάτων κατὰ διαφόρους χρονικὰς περιόδους, ἔχει χαρτογραφήσει πολὺ μικρὰς περιοχὰς κειμένας ἐντὸς τῶν λεκανῶν ἀπορροῆς διαφόρων ποταμῶν τῆς Κύπρου. Ἡ ἐργασία ἔγινε ἀπὸ τεμαχίου εἰς τεμάχιον.

(στ) Τὸ 1968, παρήχθη χάρτης χρήσεως γῆς εἰς κλίμακα 1:25,000. Ἡ φωτοερμηνεία ἔγινεν ἀπὸ ἀεροφωτογραφίας κλίμακος 1:15,000 ληφθείσας τὸν Μάρτιον τοῦ 1968 διὰ τὰς χειμερινὰς φυτείας καὶ τὸν Ἰούλιον τοῦ 1968 διὰ τὰς καλοκαιρινὰς φυτείας. Ἡ ὅλη χαρτογράφησις ἔγινεν ἐπὶ 25 φύλλων. Ἀναμφιβόλως ἡ χαρτογράφησις τοῦ 1968, παρὰ τὴν σχετικῶς μικρὰν κλίμακα, εἶναι ἡ καλυτέρα ἥτις ἔγινε ὡς τώρα εἰς Κύπρον μὲ τὴν βοήθειαν ἀεροφωτογραφιῶν. Τὸ σχέδιον ὑπ' ἀρ. 1 δεικνύει μέρος τῶν χαρτογραφήσεων.

(ζ) Τὸ Τμῆμα Πολεοδομίας καὶ Οἰκήσεως κατὰ καιροὺς καὶ δὴ κατὰ τὰ τελευταῖα ἔτη, ἔχει προβῆ εἰς χαρτογραφήσεις χρήσεως ἀστικῆς γῆς. Αἱ πόλεις καὶ τὰ προάστια ἔχουν χαρτογραφηθῆ πλήρως.

(η) Μεταξὺ τῶν ἐτῶν 1968—1971 ἔγιναν χαρτογραφήσεις χρήσεως γῆς ἐπὶ τῶν γνωστῶν κτηματικῶν σχεδίων κλίμακος 1:5,000 καὶ 1:2,500 διὰ σκοποὺς ἀναδασμοῦ. Τὴν καθοδηγητικὴν γραμμὴν ἔδωσεν ὁ γράφων πρὸς τοὺς προϊσταμένους τῶν συνεργείων ἀναδασμοῦ τῶν χωρίων Κισσόνεργας, Χλώρακας, Παλαιχωρίου καὶ Ἀκρούντας. Παρὰ τὸ γεγονὸς ὅτι τὰ κτηματικὰ σχέδια παρουσιάζουν πάντοτε προβλήματα κατὰ τὰς χαρτογραφήσεις, ἐν τούτοις εἰς τὰς ἀνωτέρω περιπτώσεις τὰ τεμάχια εἶχον πλήρως ἐκσυγχρονισθῆ κατόπιν μελέτης καὶ ἀνταπεκρίνοντο πρὸς τὸ ἔδαφος ἔστω καὶ ἂν πολλάκις τὰ σύνορα δὲν ἦσαν ὁρατά. Ἀναμφιβόλως αἱ χαρτογραφήσεις αὗται ἀποτελοῦν τὴν ἀκριβεστέραν ἐργασίαν ἥτις ἔγινε ποτὲ ἐπὶ κτηματικῶν σχεδίων καὶ δὴ ἀπὸ τεμαχίου εἰς τεμάχιον.

3. Κλῖμαξ Χαρτογραφήσεως.

Ἡ τάσις σήμερον εἰς τὰς ἀνεπτυγμένας χώρας τοῦ κόσμου εἶναι νὰ παράγων-

ται χάρται χρήσεως γῆς ἐπὶ μεγάλης κλίμακος. Δὲν εἶναι λοιπὸν ἐκπληκτικὸν τὸ γεγονὸς ὅτι εἰς τὸ Βέλγιον, Πολωνίαν, Σουηδίαν καὶ Ἡνωμένον Βασίλειον ἔχουν παραχθῆ χάρται χρήσεως γῆς ἐπὶ κλίμακος 1:10,000 εἰς δὲ τὸ Ἰσραὴλ 1:5,000 καὶ 1:10,000. Πολλαὶ χῶραι παράγουν ταυτοχρόνως χάρτας χρήσεως γῆς ἐπὶ διαφόρων κλιμάκων μικρῶν καὶ μεγάλων.

4. Αἱ Ἀνάγκαι τῆς Κύπρου

Ἡ Κύπρος ἔχει, κατὰ τὴν ἡμετέραν γνώμην, ἀνάγκην δύο χαρτῶν χρήσεως γῆς:

(α) ἑνὸς ἐπὶ μεγάλης κλίμακος, κατὰ προτίμησιν 1:5,000 ἕως 1:10,000, ἐπὶ τοῦ ὁποίου θὰ δεικνύωνται ὅλαι αἱ λεπτομέρειαι αἱ ἀφορῶσαι τὰς ὑφισταμένας καλλιεργείας εἰς ἕνα χωρίον ἢ μίαν περιοχὴν καὶ ὅστις θὰ λαμβάνεται σοβαρῶς ὑπ' ὄψιν προκειμένου περὶ σχεδιοποιήσεως τῆς οἰκονομίας, ἀναδιαρθρώσεως καλλιεργειῶν κ.λ.π.

(β) ἑνὸς σχετικῶς μικρᾶς κλίμακος, ὅστις θὰ δύναται νὰ χρησιμοποιηθῆ καὶ διὰ συγκριτικὰς μελέτας μεταξὺ διαφόρων περιοχῶν τῆς Κύπρου ἢ ἀκόμη μεταξὺ Κύπρου καὶ ἄλλων χωρῶν τοῦ ἐξωτερικοῦ. Θὰ ἦτο ὅμως καλύτερον ὅπως ὁ δεύτερος γίνῃ μὲ βάσιν τὴν σμίκρυνσιν τοῦ πρώτου.

5. Δυσκολίαι χαρτογραφήσεως τῆς Κυπριακῆς γῆς

Ἡ Κύπρος, παρὰ τὴν μικρὰν της ἔκτασιν, παρουσιάζει τεραστίας δυσκολίας ὅσον ἀφορᾶ τὴν χαρτογράφησιν χρήσεως γῆς. Αὐτὸ ὀφείλεται κυρίως εἰς τοὺς ἀκολούθους λόγους:—

(α) Μεγάλη γεωλογική, μορφολογική, ἐδαφολογικὴ καὶ κλιματολογικὴ ποικιλία εἰς τὸ Κυπριακὸν τοπίον.

(β) μικραὶ ἀρδευόμεναι ἐκτάσεις μὲ παντοειδεῖς καλλιεργείας διεσπαρμέναι εἰς ξηρικὰς περιοχάς.

(γ) ὁ πολυτεμαχισμὸς τῆς γῆς.

(δ) πολλαπλαῖ καλλιέργειαι.

6. Τρόποι χαρτογραφήσεως μιᾶς περιοχῆς

Οἱ διάφοροι τρόποι χαρτογραφήσεως μιᾶς περιοχῆς δύνανται νὰ συνοψισθῶσιν ὡς ἀκολούθως:—

(α) *Χαρτογράφησις ἀπὸ χωράφι εἰς χωράφι.* Εἶναι ὁ πλέον ἀσφαλὴς καὶ ἀκριβὴς τρόπος χαρτογραφήσεως καὶ προϋποθέτει ἀκριβεῖς χωρομετρικοὺς χάρτας, οἵτινες θὰ χρησιμοποιηθῶσιν ὡς «βασικοὶ χάρται». Προκειμένου περὶ μιᾶς μικρᾶς περιοχῆς εἶναι ὁ ἰδεωδέστερος τρόπος χαρτογραφήσεως. Ὁ τρόπος οὗτος ἐχρησιμοποιήθη, ὡς ἤδη ἀνεφέρθη, διὰ τὴν χαρτογράφησιν χρήσεως γῆς τῶν ὑπὸ ἀναδασμὸν περιοχῶν τῆς Κύπρου. Τὸ μειονέκτημα τοῦ τρόπου αὐτοῦ εἶναι ἡ βραδύτης ἥτις παρατηρεῖται εἰς τὴν χαρτογράφησιν.

(β) *Δι' ἀλληλογραφίας.* Εἶναι ὁ ὀλιγώτερον χρησιμοποιούμενος τρόπος, διότι προϋποθέτει πολὺ ἀκριβῆ χωρομετρικὰ σχέδια καὶ μεγάλην εὐσυνειδησίαν ἐκ μέρους τῶν γεωργῶν, ὡς ἐπίσης καὶ ἀρκετὰ ὑψηλὸν μορφωτικὸν ἐπίπεδον ἐκ μέρους τῶν κατοίκων μιᾶς κοινότητος.

(γ) *Προσωπικὴ ἐπαφὴ μετὰ τῶν δικαιούχων ἰδιοκτητῶν ἢ ἐνοικιαστῶν, ἀλλ' οὐχὶ μετὰ τῶν κτημάτων των.* Ἡ μέθοδος αὕτη πολὺ σπανίως χρησιμοποιεῖται. Τὰ μειονεκτήματα εἶναι τὰ ἀκόλουθα:

(i) οἱ γεωργοὶ εἶναι πιθανὸν νὰ ὁμιλοῦν μὲ γενικότητας καὶ ἀοριστολογίας περὶ καλλιεργειῶν εἰς τὸ κτῆμα των.

(ii) ἡ ἐπίσκεψις εἰς τὴν ἀγροτικὴν κοινότητα εἶναι ἐπιβεβλημένη καὶ μὲ ὀλίγον ἐπιπρόσθετον χρόνον παραμονῆς ἡ χαρτογράφησις θά ἠδύνατο νὰ γίνῃ πλέον ἀσφαλὴς ἀπὸ τεμαχίου εἰς τεμάχιον.

(iii) οἱ ἰδιοκτῆται, ἢ ἐνοικιασταὶ πρέπει νὰ εἶναι παρόντες κατὰ τὴν ἐπίσκεψιν, πρᾶγμα πολὺ δύσκολον.

(δ) *Χαρτογράφησις δι' ἀεροφωτογραφιῶν.* Ἡ μέθοδος αὕτη χρησιμοποιεῖται εὐρέως σήμερον, τόσον εἰς τὰς ἀναπτυσσομένας, ὅσον καὶ τὰς ἀνεπτυγμένας χώρας τοῦ κόσμου. Τὰ βασικὰ πλεονεκτήματα τῆς μεθόδου αὐτῆς εἶναι:

(i) ἡ ταχύτης συμπληρώσεως ἑνὸς χάρτου. Ὁ χρόνος ὅστις ἀπαιτεῖται κατὰ τὸν Buringh εἶναι τὸ 1/4 μέχρι τὸ 1/10 τοῦ ὅλου χρόνου, ὅστις θὰ ἀπητῆτο μὲ τὴν κλασσικὴν μέθοδον.

(ii) Ἡ ἀεροφωτογραφία δίδει εἰς τὸν χρησιμοποιοῦντα αὐτὴν μίαν ὁλοκληρωμένην εἰκόνα τοῦ τοπίου. Ἡ τρισδιάστατος καὶ ἀφ' ὑψηλοῦ ἐξέτασις διὰ τοῦ στερεοσκοπίου μιᾶς σειρᾶς ἀεροφωτογραφιῶν ἐκμηδενίζει τὸ μειονέκτημα τῆς περιωρισμένης ὁρατότητος τῆς ἀπὸ τεμαχίου εἰς τεμάχιον ἐπισκοπήσεως.

(iii) Τὰ σύνορα τῶν διαφόρων καλλιεργειῶν τοποθετοῦνται ἀκριβῶς.

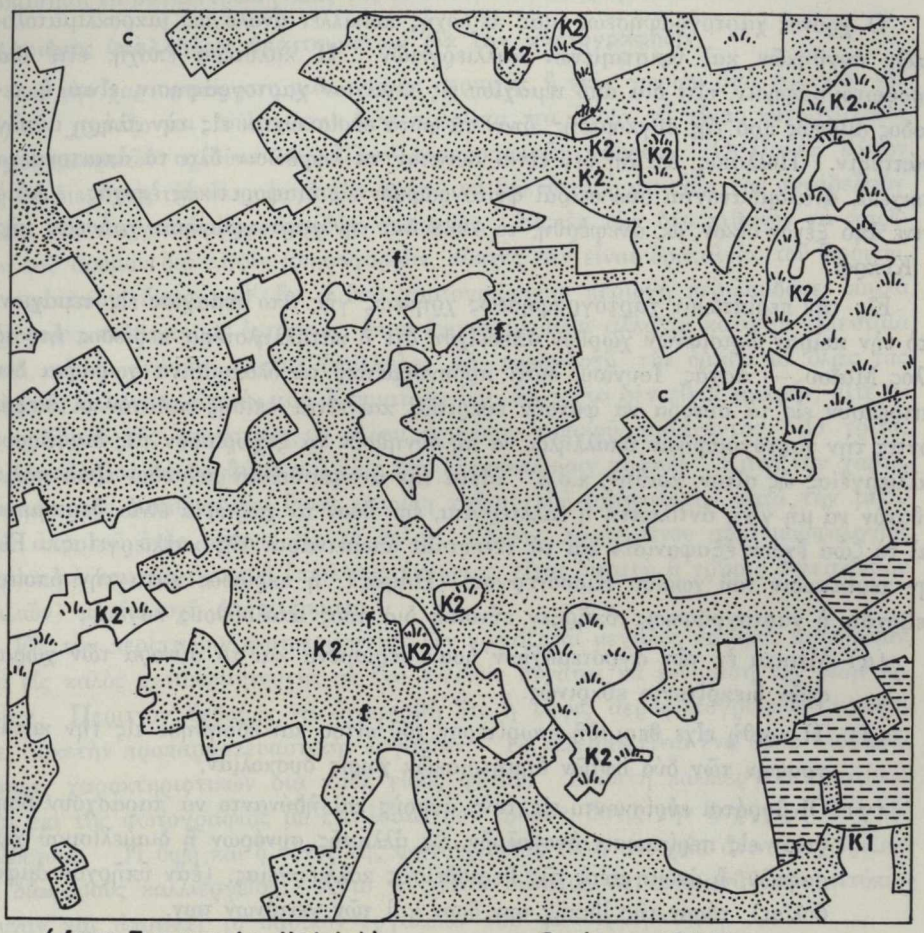
(iv) Ἐπιτρέπεται ἡ ἐκτέλεσις μελέτης προκαταρκτικῆς ἢ γενικῆς φύσεως εἰς περιοχὰς ὅπου ἀπουσιάζουν μέσα προσπελάσεως. Οὕτω, εἰς μίαν ὑπανάπτυκτον περιοχὴν εἶναι δυνατὸν νὰ γίνῃ φωτοερμηνεία ἔστω καὶ ἐὰν δὲν ὑπάρχῃ ὁδικὸν δίκτυον.

Τὰ μειονεκτήματα τῆς μεθόδου αὐτῆς διὰ μεγάλης κλίμακος χάρτας χρήσεως γῆς εἶναι τὰ ἑξῆς:

(i) ἀπαιτεῖται ἔλεγχος ἐπὶ τόπου.

(ii) πολλαὶ λεπτομέρειαι καλλιεργειῶν δὲν φαίνονται ἐπὶ τῶν ἀεροφωτογραφιῶν, ἰδιαιτέρως ἐὰν ἡ κλῖμαξ εἶναι σχετικῶς μικρά.

(iii) διὰ περιοχὰς ὅπου ὑπάρχουν πολλαπλαῖ καλλιέργειαι, ἢ καλοκαιριναὶ καὶ χειμεριναί, ἀπαιτεῖται διπλῆ ἀεροφωτογράφησις, ἥτις ἤδη ἀνεφέρθη καὶ διὰ τὴν ἀεροφωτογράφησιν τῆς Κύπρου.



(from Famagusta district) Scale 1: 25 000

LEGEND

c Cereals

f Fallow

Legumes

K1 Flat to gently sloping land

K2 Steep and broken land

Σχ. 1. Μέρος τοῦ χάρτου χρήσεως γῆς δι' ἀεροφωτογραφιῶν.

7. Χρόνος Χαρτογραφήσεως

Ὁ χρόνος χαρτογραφήσεως μιᾶς περιοχῆς ποικίλλει ἀναλόγως μικροκλιματολογικῶν συνθηκῶν καὶ ὑφισταμένων καλλιεργειῶν. Ἡ καλυτέρα ἐποχή, εἴτε διὰ ἀεροφωτογράφησιν, εἴτε διὰ ἀπὸ τεμαχίου εἰς τεμάχιον χαρτογράφησιν, εἶναι ἡ περίοδος ἀμέσως πρὸ τῆς συγκομιδῆς, ὅταν τὰ φυτὰ εὑρίσκωνται εἰς τὴν πλήρη αὐτῶν ἀνάπτυξιν. Πολλάκις, ἐπειδὴ δὲν εἶναι δυνατὸν νὰ ληφθῶσιν ὅλα τὰ ἀπαιτούμενα στοιχεῖα, ἀναλαμβάνονται δύο σειραὶ φωτογραφιῶν εἰς διαφορετικὰς ἐποχάς. Αὐτὸ ἔγινε ἀπὸ ξένον οἶκον, ὡς ἀνεφέρθη, τὸ 1968 διὰ τὴν χαρτογράφησιν χρήσεως γῆς ἐν Κύπρῳ.

Εἰς τὴν περίπτωσιν χαρτογραφήσεως χρήσεως γῆς ἀπὸ τεμαχίου εἰς τεμάχιον, ἀπὸ τὴν πεῖραν ὡρισμένων χωρίων ἀπεδείχθη ὅτι ἡ καταλληλοτέρα περίοδος ἦτο τὸ τέλος Μαΐου — ἀρχὰς Ἰουνίου, διότι προηγουμένως τὰ ὁλοπράσινα χωράφια δὲν ἐπιτρέπουν εἰς τὰ σύνορα νὰ φανοῦν εὐκρινῶς καὶ εἶναι ἐπίσης πιθανὸν οἱ διεξάγοντες τὴν χαρτογράφησιν ὑπάλληλοι νὰ μὴ δυνηθοῦν νὰ ξεχωρίσουν τὰς διαφόρους καλλιεργείας ὡς σῖτον, κριθήν, κ.ο.κ. Μετὰ τὴν ἀναφερθεῖσαν περίοδον εἶναι πάλιν πιθανὸν νὰ μὴ γίνῃ ἀντιληπτὴ ἡ καλλιέργεια, ἐφ' ὅσον τὰ χωράφια εἶναι θερισμένα καὶ τὰ ζῶα ἔχουν ἐξαφανίσει καὶ τὰ τελευταῖα ἀπομεινάρια τῆς καλλιεργείας. Εἰς τὴν περίπτωσιν τοῦ χωρίου Κισσόνεργας, (Πάφος), ἡ περίοδος κατὰ τὴν ὁποίαν διεξήχθη ἡ χαρτογράφησις ὑπῆρξεν εὐνοϊκὴ διὰ τοὺς ἀκολούθους λόγους:

(α) Μερικὰ ἐκ τῶν ἀγροτεμαχίων ἦσαν θερισμένα καὶ τὰ σύνορα τῶν χωραφιῶν διεκρίνοντο εὐκρινῶς.

(β) Ἡ κριθὴ εἶχε θερισθῆ ἐνωρίτερον τοῦ σίτου καὶ ἐβοήθησε εἰς τὴν καταγραφὴν τῶν δύο αὐτῶν δημητριακῶν χωρὶς δυσκολίαν.

(γ) Οἱ ἀγρόται εὑρίσκοντο εἰς τοὺς ἀγροὺς καὶ ἠδύναντο νὰ παράσχουν βοήθειαν εἰς περίπτωσιν δυσκολιῶν, ὡς ἀλλαγῆς συνόρων ἢ διαμελισμοῦ χωραφιῶν, ἢ ἀκόμη περὶ τῆς θερισθείσης καλλιεργείας, (ἐὰν ὑπῆρχον ἀμφιβολίαι), τόσον τῆς ἰδικῆς των ὅσον καὶ τῶν γειτόνων των.

(δ) Εἰς τὰς ἀρδευομένας ἐκτάσεις ὅλαι αἱ καλλιέργειαι εὑρίσκοντο ἐν πλήρει ἀναπτύξει καὶ δὲν ὑπῆρχε κίνδυνος συγχύσεως.

(ε) Ἐὰν ἡ χαρτογράφησις διεξήγετο τὸν χειμῶνα, τότε διάφορα τεμάχια ἅτινα ἀρδεύονται καὶ καλλιεργοῦνται μόνον τὸ θέρος θὰ ἐπαρουσιάζοντο ὡς ἀκαλλιέργητα.

8. Κατόπτευσις

Εἰς τὴν περίπτωσιν χαρτογραφήσεως ἀπὸ τεμαχίου εἰς τεμάχιον, μία κατόπτευσις τῆς περιοχῆς θεωρεῖται ἀπαραίτητος. Κατ' αὐτήν, λαμβάνονται σοβαρῶς ὑπ' ὄψιν αἱ ὑφιστάμεναι καλλιέργειαι, ἡ ὕπαρξις ἢ μὴ δενδρωδῶν ἐκτάσεων, τὸ ὁδικὸν δίκτυον καὶ ἐν γένει ὅλαι αἱ λεπτομέρειαι, αἵτινες θὰ βοηθήσουν εἰς μίαν εὐθυνὴν καὶ ἀποδοτικὴν χαρτογράφησιν ἄνευ μεγάλων δυσχερειῶν.

Εἰς τὴν περίπτωσιν χαρτογραφήσεως δι' ἀεροφωτογραφιῶν, ὁ φωτοερμηνευτὴς

χρήσεως γῆς πρέπει νὰ γνωρίζῃ προσωπικῶς τὴν ὑπὸ ἐπισκόπησιν περιοχὴν καὶ νὰ προσπαθήσῃ νὰ συγκεντρώσῃ ὅλας τὰς ἀπαιτουμένας πληροφορίας περὶ καλλιεργειῶν.

9. Ἀριθμὸς ὑπαλλήλων ἀπαιτουμένων διὰ τὴν χαρτογράφησιν

Διὰ τὴν χαρτογράφησιν μιᾶς μικρᾶς περιοχῆς ἢ ἑνὸς χωρίου ἀπὸ τεμαχίου εἰς τεμάχιον, χρειάζονται τοὐλάχιστον δύο πρόσωπα, τὰ ὁποῖα νὰ εἶναι κατηρτισμένα ἐπὶ χωρομετρικῶν σχεδίων καὶ ἄλλων τοπογραφικῶν χαρτῶν. Ὁ εἷς ἐξ αὐτῶν ὅστις θὰ διευθύνῃ τὴν ὅλην ἐργασίαν πρέπει νὰ ὑπενθυμίζῃ συνεχῶς τὸν συνάδελφόν του ἐπὶ τῆς ἀναγκαιότητος ἀκριβῶν στοιχείων. Εἷς ἐκ τῶν δύο πιθανὸν νὰ παρεκλίνῃ τοῦ δρόμου διὰ λῆψιν πληροφοριῶν, αἵτινες δὲν εἶναι ὁραταὶ ἐκ τοῦ δρόμου. Εἰς περίπτωσιν ὅμως καθ' ἣν ἡ ὑπὸ χαρτογράφησιν περιοχὴ περιλαμβάνει πολλὰ ἐσωχώραφα πολὺ μικρᾶς ἐκτάσεως, ὅπου ἔγιναν μεγάλαι ἀλλαγαὶ κατὰ τὰ τελευταῖα χρόνια, εἶναι ἀνάγκη τρίτος ὑπάλληλος νὰ τροφοδοτῇ τὴν ὁμάδα μὲ ὅλας τὰς γενομένας ἀλλαγάς, εἴτε ἐκ τοῦ Κτηματολογίου, ἂν τοῦτο δὲν εἶναι μακράν, εἴτε ἐκ τοῦ προέδρου τῆς κοινότητος, ἢ ἄλλου ἁρμοδίου τοπικοῦ παράγοντος. Ὁ τρίτος οὗτος ὑπάλληλος θὰ βοηθήσῃ πολὺ εἰς τὴν ἐξοικονόμησιν χρόνου. Κατὰ τὴν χαρτογράφησιν τῆς Κισσόνεργας ἔγινε μεγάλη χρῆσις τοῦ αὐτοκινήτου κατὰ τὴν μετάβασιν ἀπὸ τοῦ ἑνὸς μέρους εἰς τὸ ἄλλο. Ἐπίσης προκειμένου περὶ μορφολογίας ἐδάφους μὲ καμπυλότητας ἢ ἐπικλινεῖς ἐκτάσεις, εἶναι δυνατὴ ἡ χρῆσις τηλεσκοπίου (κιαλιῶν) μὲ ἐπιτυχῆ ἀποτελέσματα.*

Εἰς τὴν περίπτωσιν φωτοερμηνείας δὲν χρειάζεται μεγάλος ἀριθμὸς προσώπων, ἀλλὰ εἷς καλὸς φωτοερμηνευτὴς μὲ ἕνα «κλειδί» δύναται νὰ ἑτοιμάσῃ τὴν ὅλην ἐργασίαν. Περιττὸν βεβαίως νὰ ἀναφερθῇ ὅτι ἡ λῆψις ἀεροφωτογραφιῶν προϋποθέτει ἀρκετὴν προπαρασκευαστικὴν ἐργασίαν. Τὸ «κλειδὶ» εἶναι ἕνα εἶδος συλλογῆς εἰκόνων, χαρακτηριστικῶν διὰ κάθε εἶδος φυτοῦ. Ἑκάστη καλλιέργεια ἀποτυπώνεται ἐπὶ τῆς φωτογραφίας μὲ ἕνα ἰδιαίτερον τρόπον, ὅστις τὴν ξεχωρίζει ἀπὸ τὰς ὑπολοίπους. Ἡ ὑφὴ καὶ ὁ τόνος τῆς φωτογραφίας εἶναι στοιχεῖα ἅτινα ξεχωρίζουν τὰς διαφόρους καλλιεργείας. Αὐτὸ τὸ κλειδὶ δύναται νὰ ἑτοιμασθῇ μὲ ἐπιτόπιον ἔρευναν καὶ ἀποτελεῖ τὸ βασικὸν ἐργαλεῖον τοῦ φωτοερμηνευτοῦ.

10. Προπαρασκευὴ τῶν βασικῶν χαρτῶν καὶ σχεδίων

Καμμία χαρτογράφησις ἀπὸ τεμαχίου εἰς τεμάχιον εἶναι δυνατὴ ἄνευ τῶν βασικῶν σχεδίων ἐπὶ τῶν ὁποίων θὰ χαρτογραφηθῇ ἡ περιοχή. Δι' αὐτὸ εἶναι ἀνάγκη νὰ ληφθοῦν τὰ ἀπαιτούμενα σχέδια ἐκ τοῦ Κτηματολογικοῦ καὶ Χωρομετρικοῦ Τμήματος, νὰ ἑνωθοῦν καταλλήλως καὶ νὰ σημειωθοῦν τὰ ὅρια τῆς ὑπὸ χαρτογράφησιν περιοχῆς μὲ μίαν ἔγχρωμον κτυπητὴν γραμμήν.

Εἰς τὴν Κύπρον τὰ κατάλληλα σχέδια διὰ μίαν χαρτογράφησιν ἀπὸ τεμαχίου εἰς τεμάχιον, θεωροῦνται τὰ σχέδια τοῦ Κτηματολογίου, κλίμακος 1:5,000 ἢ 1:2,500.

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* *Σημ.: Εἰς τὴν περίπτωσιν τῆς Κύπρου, τὰ χωρομετρικὰ σχέδια τὰ ὁποῖα προμηθεύεται κανεὶς ἐκ τοῦ κεντρικοῦ Κτηματολογικοῦ καὶ Χωρομετρικοῦ Τμήματος δὲν εἶναι ἐκσυγχρονισμένα, καθ' ὅσον ὅλαι αἱ ἀλλαγαὶ συνόρων κατὰ τὰ τελευταῖα πενῆντα, ἢ καὶ περισσότερα χρόνια, ἀπουσιάζουν.*

Οἱ χάρται κλίμακος 1:50,000 εἶναι πολὺ μικροὶ διὰ μίαν τοιαύτην χαρτογράφησιν, σκοπὸς τῆς ὁποίας εἶναι ἡ συγκέντρωσις πολὺ λεπτομερειακῶν πληροφοριῶν.

11. Δυσκολίαι κατὰ τὴν ἐπίσκεψιν εἰς τὰ ἀγροτεμάχια

Αἱ σημαντικώτεραι δυσκολίαι δύνανται νὰ συνοψισθῶσιν ὡς ἀκολούθως:

(α) Ὡς ἀνεφέρθη καὶ ἀνωτέρω, τὰ σχέδια τὰ ὁποῖα θὰ ληφθοῦν ἐκ τοῦ Κτηματολογίου δὲν περιλαμβάνουν ὅλας τὰς ἀλλαγὰς διακατοχῆς γῆς, αἵτινες ἐσημειώθησαν κατὰ τὰς τελευταίας δεκαετίας. Εἶναι δυνατὸν νὰ ἀναζητῆ ὁ ὑπάλληλος ἕνα τετραγωνικὸν χωράφι καὶ ἀντ' αὐτοῦ νὰ εὕρη 5—10 μικρὰ τεμάχια ἀκανονίστου μεγέθους, τὸ προϊὸν τῆς κατατμήσεως τοῦ ἀρχικοῦ τετραγωνικοῦ χωραφιοῦ.

(β) Ἀρκετοὶ κτηματίαι, πολλάκις χωρίζουν οἱ ἴδιοι μεταξύ των τὰ κτήματά των χωρὶς νὰ πληροφοροῦν τὸ Κτηματολόγιον καὶ οὕτω παρουσιάζονται δυσχέρειαι διὰ τοὺς ὑπαλλήλους χαρτογραφήσεως.

(γ) Περιοχαὶ ἐπηρεασθεῖσαι ἐκ τῆς διαβρώσεως, ἰδιαιτέρως πλησίον θαλάσσης ἢ ποταμῶν, εἶναι πιθανὸν νὰ ἔχουν στερηθῆ μικρῶν τεμαχίων, τὰ ὁποῖα ἂν καὶ εἶναι ἐγγεγραμμένα ἐν τῷ Κτηματολογίῳ καὶ ἂν καὶ φέρουν χωρομετρικοὺς ἀριθμοὺς εἰς τὸ χωρομετρικὸν σχέδιον, ἐν τούτοις ἀπουσιάζουν ἐπὶ τόπου.

(δ) Τὰ χωρομετρικὰ σχέδια τοῦ Κτηματολογικοῦ καὶ Χωρομετρικοῦ Τμήματος δὲν περιλαμβάνουν ἰσοϋψεῖς (δὲν εἶναι δηλαδὴ γνησίως τοπογραφικὰ σχέδια), πρᾶγμα ὅπερ δυσχεραίνει τὴν ἐργασίαν κατὰ τὴν μετάβασιν ἀπὸ τὸ ἕνα τεμάχιον εἰς τὸ ἄλλον.

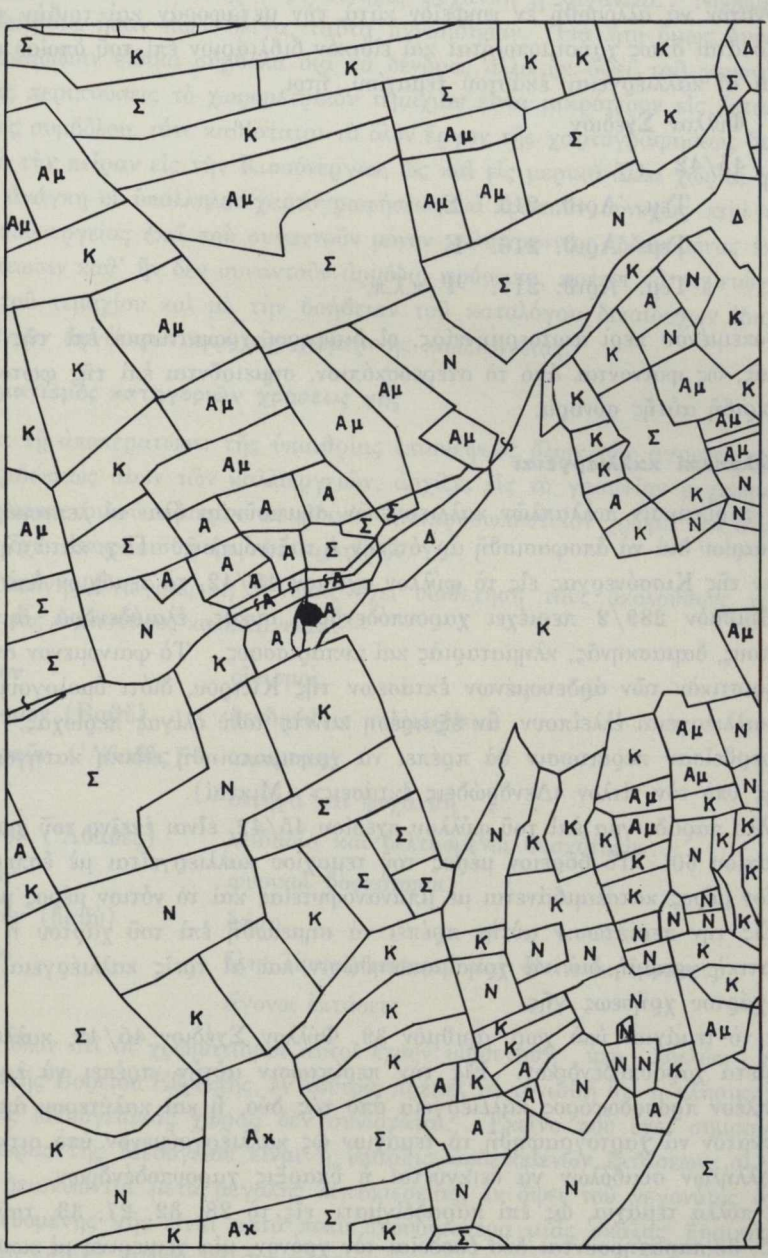
(ε) Εἰς πολλὰς περιπτώσεις, τὰ σύνορα ἔχουν παραμορφωθῆ καὶ ἔχουν λάβει ἑλικοειδῆ σχήματα, τὰ δὲ τεμάχια ἔχουν στερηθῆ ἐκτάσεως γῆς, ἕνεκεν τῆς παρανόμου συμπεριφορᾶς τοῦ γείτονος-ἰδιοκτήτου.

12. Πῶς σημειοῦνται αἱ καλλιέργειαι

Ὑπάρχουν διάφοροι τρόποι σημειώσεως τῶν καλλιεργειῶν ἐπὶ τοῦ κτηματικοῦ χάρτου. Εἰς τὴν παροῦσαν μελέτην συνιστᾶται ὅπως προτοῦ ἀρχίση ἡ χαρτογράφησις ἀποφασισθῆ ποῖα ἀρχικὰ ψηφεῖα θὰ χρησιμοποιηθῶσιν διὰ κάθε καλλιέργειαν εἰς τὸν χῶρον τοῦ χωρομετρικοῦ σχεδίου π.χ.

Σ. Σῖτος
Μ. Μπανάναι
Ε. Ἐσπεριδοειδῆ
Ψ. Ψυχανθῆ
Α. Ἀγρανάπαυσις κ.λ.π.

Κατωτέρω παρατίθεται τεμάχιον σχεδίου ὑπ' ἀρ. 2 τὸ ὁποῖον ἐχρησιμοποιήθη κατὰ τὴν χαρτογράφησιν τῆς Κισσόνεργας.



Σχ. 2. Ἀρχικὰ ψηφεῖα χρησιμοποιηθέντα κατὰ τὴν χαρτογράφησιν χρήσεως γῆς εἰς Κισσόνεργαν.

Μὲ τὸν τρόπον αὐτὸν καταγράφονται ὅλαι αἱ καλλιέργειαι. Ἐπειδὴ ὅμως εἶναι δυνατὸν νὰ ἀλλοιωθῇ ἐν ψηφεῖον κατὰ τὴν μεταφορὰν καὶ τριβὴν τοῦ χάρτου συνιστᾶται ὅπως χρησιμοποιῆται καὶ εἰδικὸν βιβλιάριον ἐπὶ τοῦ ὁποίου νὰ καταχωρῶνται αἱ καλλιέργειαι ἑκάστου τεμαχίου, ἤτοι,

Φύλλον Σχέδιον
45/42
Τεμ. Ἀριθ. 215. Σ
Τεμ. Ἀριθ. 216. Ε
Τεμ. Ἀριθ. 217. Ψ κ.λ.π.

Προκειμένου περὶ φωτοερμηνείας, οἱ διάφοροι χρωματισμοὶ ἐπὶ τῆς ἀεροφωτογραφίας, ὡς φαίνονται ἀπὸ τὸ στερεοσκόπιον, σημειοῦνται ἐπὶ τῆς φωτογραφίας μὲ τὰ ἀκριβῆ αὐτῆς σύνορα.

13. Πολλαπλαῖ καλλιέργειαι

Εἰς περίπτωσιν πολλαπλῶν καλλιεργειῶν σημειοῦνται ὅλαι αἱ λεπτομέρειαι ἐπὶ τοῦ βιβλιαρίου διὰ νὰ ἀποφασισθῆ ἀργότερον ἡ ταξινόμησις. Π.χ. κατὰ τὴν χαρτογράφησιν τῆς Κισσόνεργας εἰς τὸ φύλλον σχέδιον 45/42, τὸ τεμάχιον ὑπὸ χωρομετρικὸν ἀριθμὸν 289/2 περιέχει χαρουπόδενδρα, συκᾶς, ἐλαιόδενδρα, ἀμυγδαλᾶς, εὐκαλύπτους, δαμασκηνᾶς, κληματαριὰς καὶ κυπαρίσσους. Τὸ φαινόμενον αὐτὸ εἶναι χαρακτηριστικὸν τῶν ἀρδευομένων ἐκτάσεων τῆς Κύπρου, διότι ὁμολογουμένως αἱ εἰδικαὶ καλλιέργειαι ἐλλείπουν, ἂν ἐξαιρέσῃ κανεὶς πολὺ ὀλίγας περιοχάς. Εἰς τὴν προαναφερθεῖσαν περίπτωσιν θὰ πρέπει νὰ χρησιμοποιηθῆ εἰδικὴ κατηγορία χρήσεως γῆς ὑπὸ τὸν τίτλον «Δενδρώδεις ἐκτάσεις» (Μικταί).

Ἄλλο παράδειγμα ἐπὶ τοῦ φύλλου σχεδίου 45/42, εἶναι ἐκεῖνο τοῦ χωρομετρικοῦ τεμαχίου 60. Τὸ βόρειον μέρος τοῦ τεμαχίου καλλιεργεῖται μὲ ἑσπεριδοειδῆ, τὸ μεσαῖον μέρος καταλαμβάνεται μὲ μπανανοφυτείας καὶ τὸ νότιον μέρος μὲ κηπευτικά. Εἰς τὴν περίπτωσιν αὐτὴν πρέπει νὰ σημειωθῆ ἐπὶ τοῦ χάρτου ἡ ἀκριβὴς διαχωριστικὴ γραμμὴ διὰ νὰ χρησιμοποιηθῶσιν καὶ αἱ τρεῖς καλλιέργειαι ἐπὶ τοῦ τελικοῦ χάρτου χρήσεως γῆς.

Εἰς τὸ τεμάχιον ὑπὸ χωρ. ἀριθμὸν 39, Φύλλον Σχέδιον 45/42, καλλιεργεῖται βρώμη μετὰ χαρουποδένδρων. Εἰς τὴν περίπτωσιν αὐτὴν, πρέπει νὰ ληφθῆ ὑπ' ὄψιν ἡ πλέον προσοδοφόρος καλλιέργεια ἀπὸ τὰς δύο, ἢ καὶ καλύτερον ἀμφότεραι. Εἶναι δυνατὸν νὰ χαρτογραφηθῆ τὸ τεμάχιον ὡς καλλιεργούμενον ὑπὸ σιτηρῶν καὶ διὰ καταλλήλων συμβόλων νὰ δεικνύεται ἡ ὕπαρξις χαρουποδένδρων.

Εἰς πολλὰ τεμάχια, ὡς ἐπὶ παραδείγματι, εἰς τὸ 28, 32, 27, 33, τοῦ Φύλλου Σχεδ. 45/33,παρατηροῦνται δύο ἐσοδεῖαι τὸν χρόνον, μία χειμερινὴ μὲ κουνουπίδια καὶ σέλλινα καὶ μία καλοκαιρινὴ μὲ διάφορα εἴδη κηπευτικῶν. Εἰς τὴν περίπτωσιν αὐτὴν πρέπει νὰ γίνουν σαφεῖς καὶ αἱ δύο καλλιέργειαι διὰ τῆς χρησιμοποιήσεως εἰδικῶν συμβόλων.

Εἰς πολλὰς ἄλλας περιπτώσεις, πολὺ ὀλίγα δένδρα ἦσαν φυτευμένα εἰς περιοχὰς

καταλαμβανομένας ἐξ ὁλοκλήρου μὲ σιτηρά, ψυχανθῆ ἢ λαχανικά. Νοουμένου ὅτι τὰ δένδρα αὐτὰ ἦσαν πολὺ ὀλίγα, ταῦτα ἠγνοήθησαν. Θὰ ἦτο ὅμως δυνατὸν νὰ χρησιμοποιηθῶσιν εἰδικὰ σύμβολα διὰ τὰ δένδρα, ἀλλὰ ἐν ὄψει τοῦ γεγονότος ὅτι εἰς πολλὰς περιπτώσεις τὸ χωρομετρικὸν τεμάχιον εἶναι μικρότερον εἰς ἔκτασιν ἀπὸ τὸ μέγεθος συμβόλου, τότε καθίσταται τὸ ὅλον ἔργον τῆς χαρτογραφήσεως δυσχερές.

Ἀπὸ τὴν πεῖραν εἰς τὴν Κισσόνεργαν, ὡς καὶ εἰς μερικὰ ἄλλα χωρία, φαίνεται ὅτι εἶναι ἀνάγκη οἱ ὑπάλληλοι χαρτογραφήσεως νὰ ἐρωτοῦν συνεχῶς περὶ τῆς χειμερινῆς καλλιεργείας ἐκεῖ ποὺ συναντοῦν μόνον καλοκαιρινὰς ἀρδευομένας ἐκτάσεις. Εἰς περίπτωσιν καθ' ἣν δὲν συναντοῦν ἁρμόδια πρόσωπα, πρέπει νὰ σημειώνουν τὸν ἀριθμὸν τοῦ τεμαχίου καὶ μὲ τὴν βοήθειαν τοῦ καταλόγου δικαιούχων ἰδιοκτητῶν νὰ μανθάνουν ἀργότερον περὶ τῆς χειμερινῆς καλλιεργείας.

14. Χρωματισμὸς κατηγοριῶν χρήσεως γῆς

Ἅμα τῇ ἀποπερατώσει τῆς ὑπαιθρίας ἐπισκέψεως ὅλων τῶν ἀγροτεμαχίων καὶ τῆς ἐξακριβώσεως ὅλων τῶν καλλιεργειῶν, ἀρχίζει εἰς τὸ γραφεῖον ὁ χρωματισμὸς ἑκάστου χωρομετρικοῦ τεμαχίου μὲ εἰδικὸν ἀντιπροσωπευτικὸν χρῶμα καὶ σύμβολον, τὸ ὁποῖον ἔχει ἀποφασισθῆ ἐκ τῶν προτέρων.

Ἡ Διεθνὴς Γεωγραφικὴ Ἕνωσις ἔχει υἱοθετήση τοὺς ἀκολούθους χρωματισμοὺς διὰ τὰς ἀκολούθους καλλιεργείας:—

1. Κόκκινον	οἰκισμοί
2. Πορφυροῦν (Βαθὺ)	δενδρώδεις καλλιέργειαι
3. Πορφυροῦν (Ἀβαθὲς)	κηπευτικὰ
4. Καφὲ	σιτηρὰ καὶ ψυχανθῆ
5. Πράσινον (Ἀβαθὲς)	λειβάδια καὶ βελτιωμένοι βοσκότοποι
6. Κίτρινον	φυσικοὶ βοσκότοποι
7. Πράσινον (βαθὺ)	δάση
8. Κυανοῦν	ἕλη, λίμναι, ποταμοὶ καὶ ὑδάτιναι ἐκτάσεις
9. Γκρίζο	ἄγονοι ἐκτάσεις

Παρ' ὅλον ὅτι οἱ χρωματισμοὶ αὐτοὶ ἔχουν υἱοθετηθῆ ὑπὸ πολλῶν χωρῶν, ἰδιαιτέρως τῆς Βορείου Εὐρώπης, ἐν τούτοις πρέπει νὰ τονισθῆ ὅτι ἡ πλήρης χρῆσις των εἰς τὰς Μεσογειακὰς χώρας δὲν συνιστᾶται. Ἐκεῖνο ποὺ ἔχει σημασίαν εἰς ξηρικὰς χώρας τῆς Μεσογείου εἶναι ἡ ὕπαρξις ἀρδευομένων ἐκτάσεων, αἱ ὁποῖαι πρέπει νὰ δεικνύωνται μετὰ μεγάλης λεπτομερείας, ἐν ὄψει τοῦ γεγονότος ὅτι μία σκάλα ἀρδευομένης γῆς εἶναι κατὰ πολὺ σπουδαιοτέρα μιᾶς σκάλας ξηρικῆς γῆς. Τὰ χρώματα ἐπίσης πρέπει νὰ ἀνταποκρίνωνται πρὸς τοὺς φυσικοὺς χρωματισμοὺς τῶν καλλιεργειῶν. Μὲ βάσιν τὰ ἀνωτέρω, ὅλαι αἱ δενδρώδεις περιοχαὶ καὶ αἱ καταλαμβανόμεναι μὲ κηπευτικὰ ἔχουν χρωματισθῆ μὲ πολὺ ἀβαθὲς καὶ ἀβαθὲς πράσινον ἀντιστοίχως, καὶ διάφορα σύμβολα καὶ γράμματα ἔχουν χρησιμοποιηθῆ διὰ εἰδικὰς καλλιεργείας.

Ἐπειδὴ ὑπάρχουν ἐκτάσεις προσωρινῶς ἀκαλλιέργητοι καὶ ὑπὸ ἀγρανάπαυσιν, προετιμήθη τὸ λευκὸν χρῶμα. Εἰς ὅλας τὰς ἄλλας περιπτώσεις ἐχρησιμοποιήθησαν οἱ χρωματισμοὶ οἱ συνιστώμενοι ὑπὸ τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως. Οἱ χρωματισμοὶ οἵτινες ἐχρησιμοποιήθησαν ἔχουν ὡς ἀκολούθως:—

1. Πολὺ ἀβαθὲς πράσινο	Κηπευτικὰ (Μικτὰ)
2. Ἀβαθὲς πράσινο	Λενδρώδεις ἐκτάσεις (Μικταὶ)
3. Καφὲ	Ξηρικὴ καλλιεργουμένη ἔκτασις
4. Λευκὸν	Προσωρινῶς ἀκαλλιέργητοι ἐκτάσεις
5. Κυανοῦν	Ποταμοὶ καὶ ρύακες
6. Κόκκινον	Δρόμοι καὶ οἰκισμοὶ

(Τὰ ἀνωτέρω χρώματα ἦσαν ἀρκετὰ διὰ τὰς ὑφισταμένας καλλιεργείας)

Ἔχουν χρησιμοποιηθῆ ἀρκετὰ σύμβολα καὶ γράμματα διὰ τὸν καθορισμὸν εἰδικῶν καλλιεργειῶν, ὡς π.χ. ἐπὶ τοῦ χρώματος τῶν δενδρωδῶν καλλιεργειῶν ἔχουν προστεθῆ:

M. διὰ Μπανανοφυτείας
E. διὰ Ἐσπεριδοειδῆ
X. διὰ Χαρουποφυτείας
A. διὰ Ἀμυγδαλοφυτείας κ.λ.π.

Μὲ καθέτους διακοπτομένας γραμμὰς ἔχουν χαρτογραφηθῆ οἱ ἀμπελῶνες. Τὰ νομευτικὰ φυτὰ (φαρράδες κλπ) ἔχουν χαρτογραφηθῆ μὲ τὸ καφετὶ χρῶμα, ὡς καὶ μὲ ἐπιπροσθέτους καθέτους, παραλλήλους, πρασίνας γραμμάς.

Εἰς τὴν περίπτωσιν διπλῶν ἐσοδειῶν εἰς τὰ κηπευτικά, ἔχουν χρησιμοποιηθῆ στίξεις ἐντὸς τοῦ ἀβαθοῦς πρασίνου τοῦ χρώματος τῶν κηπευτικῶν.

15. Βασικοὶ σκοποὶ καὶ ὠφελιμότης τῆς χαρτογραφήσεως

(α) Συμφώνως τῶν Κυβερνητικῶν σχεδίων περὶ Ἀναπτύξεως τοῦ Ἀναδασμοῦ ἐν Κύπρῳ, 100,000 περίπου σκάλαι θὰ πρέπει νὰ ὑφίστανται ἀναδασμὸν ἐτησίως, ἐὰν πρόκειται νὰ ἀναδιανεμηθῶσιν 2,500,000 σκάλαι Κυπριακῆς γεωργικῆς γῆς ἐντὸς τῶν προσεχῶν 25 χρόνων. Ἡ χαρτογράφησις θὰ βοηθήσῃ πολύ, πρῶτον εἰς τὸ νὰ δοθῆ προτεραιότης εἰς ὡρισμένα χωρία ἅτινα εὐνοοῦνται φυσικῶς καὶ οἰκονομικῶς, καὶ δεύτερον θὰ ἀποφευχθῇ ἡ ἐκ δευτέρου χαρτογράφησις, ἥτις θὰ ἀπαιτήσῃ πολύτιμον χρόνον. Ἀλλὰ καὶ ἐὰν γίνῃ δευτέρα χαρτογράφησις, αὕτη θὰ βοηθήσῃ πολὺ εἰς συγκριτικὰς μελέτας μεταξὺ πρώτης καὶ δευτέρας χαρτογραφήσεως. Ἡ ὑποδιαίρεσις μιᾶς ὑπὸ ἀναδασμὸν περιοχῆς εἰς καλλιεργητικὰς ζώνας προνοεῖται ὡσαύτως ὑπὸ τοῦ περὶ Ἀναδασμοῦ Νόμου καὶ ἀναμφιβόλως ἡ χαρτογράφησις τῆς χρήσεως γῆς θὰ ὑποβοηθήσῃ τὰ μέγιστα εἰς τὴν κατεύθυνσιν αὐτήν.

(β) Διὰ τῆς χαρτογραφήσεως ὅλης τῆς Κύπρου, καθίσταται γνωστὴ ἡ τοποθεσία τῶν καλλιεργειῶν μας. Τίθεται δηλαδὴ τέρμα εἰς τὰς γνωστὰς γενικότητας περὶ ἑνὸς ἀγνώστου ἀριθμοῦ σκαλῶν μιᾶς καλλιεργείας εἰς μίαν ἐπαρχίαν ἢ περιφέρειαν. Ἡ ἀκριβὴς τοποθεσία μιᾶς καλλιεργείας θὰ βοηθήση εἰς τὴν σχεδιοποίησιν τῆς οἰκονομίας, ἰδίως τῆς ἀναδιαρθρώσεως τῶν καλλιεργειῶν. Ἐὰν δηλαδὴ εἰς μίαν τοποθεσίαν ὑπάρχουν μπανανοφυτεῖαι ἀπὸ καιροῦ καὶ αἱ γειτονικαὶ ἐκτάσεις προσφέρουν τὸ αὐτὸ οἰκολογικὸν περιβάλλον, τότε εἶναι εὔκολος ἡ ἐπέκτασις τῆς μπανοφυτείας.

(γ) Ἐπιτυγχάνεται ἡ ἀκριβὴς γνῶσις τῆς ἐκτάσεως ἑκάστης καλλιεργείας. Καθίσταται δηλαδὴ γνωστὸν ὅτι Χ σκάλαι, ἐπὶ παραδείγματι, κριθῆς καλλιεργοῦνται εἰς τὴν περιφέρειαν Χ τῆς ἐπαρχίας Χ. Εἶναι εὔκολος πλέον ἡ ἀλλαγὴ μιᾶς καλλιεργείας μὲ ἄλλην ἰσάριθμον εἰς σκάλας, παρὰ μία ἀναδιάρθρωσις ἄνευ ἀκριβῶν δεδομένων, πρᾶγμα ποὺ θὰ ἠδύνατο νὰ ὁδηγήση εἰς πληθώραν γεωργικῆς παραγωγῆς καὶ ἀζητησίαν προϊόντων.

(δ) Εὐκολύνεται ἡ σύγκρισις μορφολογίας ἐδάφους, ἐδαφολογικοῦ χάρτου καὶ χάρτου χρήσεως γῆς, ὅταν μεταφερθῶσιν ὅλοι ἐπὶ τῆς ἰδίας κλίμακος. (Αὐτὸ κυρίως ἔχει σημασίαν ἀπὸ ἐκπαιδευτικῆς πλευρᾶς).

(ε) Καθίσταται γνωστὴ ἡ ἔκτασις ἥτις παραμένει ἀκαλλιέργητος ἐτησίως. Εἰς τὴν Κισσόνεργαν, ἐπὶ παραδείγματι, ἀπὸ τὰς 1880 σκάλας τῆς ὑπὸ ἀναδασμὸν περιοχῆς, αἱ 80 σκάλαι ἔμειναν ἀκαλλιέργητοι τὸ 1967, λόγῳ ἀδιαφορίας τῶν γεωργῶν νὰ τὰς ἐκμεταλευθῶσιν, ἢ τῆς ἀπουσίας αὐτῶν ἀπὸ τὸ χωρίον. Δέον νὰ τονισθῆ ὅτι ἡ ἀγρανάπαυσις εἰς τὸ ἐν λόγῳ χωρίον κατηργήθη ἀπὸ καιροῦ καὶ σήμερον παρατηρεῖται σχετικὴ ἐντατικὴ ἐκμετάλλευσις τῆς γῆς.

Ἐὰν ἐπεκτείνωμεν τὸ ἐπιχείρημα ἐπὶ Παγκυπρίου κλίμακος μὲ τὴν ἰδίαν ἀναλογίαν, πρέπει νὰ παραμένουν 140,000 περίπου σκάλαι ἰδιωτικῆς γῆς ἀκαλλιέργητοι, ἐκτὸς ἐκείνων ποὺ παραμένουν ἀκαλλιέργητοι λόγῳ ἀγραναπαύσεως, ἢ ἐκείνων αἵτινες περιλαμβάνονται εἰς τὴν χέρσαν ἰδιωτικὴν γῆν. Ἡ χαρτογράφησις, ὁπωσδήποτε, θὰ ξεκαθαρίση τὸ ὅλον ζήτημα.

(στ) Εὐκολύνεται ἡ σύγκρισις καλλιεργειῶν ἐντὸς μιᾶς μικρᾶς περιοχῆς, ἢ σύγκρισις ὁμοίων καλλιεργειῶν μεταξὺ διαφορετικῶν περιοχῶν.

(ζ) Καθίσταται γνωστὴ ἡ ἔκτασις ἥτις κατεβροχθίσθη ὑπὸ τῆς ἀστικοποιήσεως καὶ τοῦ ἐξαστισμοῦ, μιὰ πληροφορία ἐντελῶς ἄγνωστος μέχρι τώρα. Ἐπίσης τίθενται αἱ βάσεις περὶ τοῦ ἐτησίου ρυθμοῦ ἀστικοποιήσεως τοῦ τόπου μας.

(η) Εἰς τὴν Κύπρον ὅπου ἀγνοεῖται ἡ χρῆσις ἑνὸς μεγάλου μέρους τῆς γῆς μας καὶ οὔτε αἱ στατιστικαὶ τῶν τελευταίων ἀπογραφῶν τὸ ξεκαθαρίζουν, ἡ χαρτογράφησις θὰ ἀποβῆ ἐξόχως διαφωτιστικὴ καὶ θὰ ἀποτελέση τὴν πυξίδα μελλοντικῶν προσανατολισμῶν.

(θ) Ἀναγκαία ἡ χαρτογράφησις εἰς μίαν νῆσον τῆς ὁποίας ὁ πληθυσμὸς της συνεχῶς αὐξάνεται καὶ ἡ γεωργική της ἔκτασις συνεχῶς ἐλαττοῦται.

(ι) Ἀπὸ ἱστορικῆς πλευρᾶς φαίνονται αἱ ἀλλαγαὶ χρήσεως γῆς εἰς μίαν καθωρισμένην περιοχὴν μεταξὺ δύο ἢ περισσοτέρων περιόδων νοουμένου ὅτι οἱ χάρται χρήσεως γῆς θὰ ἀνανεώνωνται.

(κ) Εἶναι καὶ πνευματικὴ περιέργεια — ἐπιθυμία νὰ γνωρίση κανεὶς καὶ νὰ καταλάβη τὸ πρόσωπον τῆς γῆς ἐπὶ τοῦ ὁποίου κατοικᾶ καὶ κυρίως νὰ γνωρίση τὰς κατὰ περιοχὴν ἀντιθέσεις τῆς χώρας του.

16. Χαρτογράφησις ὁλοκλήρου τῆς Κύπρου διὰ τῆς κλασσικῆς μεθόδου

Ὡς ἔχει ἤδη ἀναφερθῆ, χαρτογράφησις χρήσεως γῆς ἐν Κύπρῳ ἐπὶ κλίμακος 1:25,000 ἔχει ἐπιτευχθῆ διὰ τῶν ἀεροφωτογραφιῶν. Προκειμένου περὶ χαρτογραφήσεως ἀπὸ τεμαχίου εἰς τεμάχιον ἐπὶ τοῦ κτηματικοῦ χάρτου, ἢ ἄλλου πιθανῶς τοπογραφικοῦ χάρτου κλίμακος 1:5,000, δημιουργεῖται μία πρόκλησις ἄνευ προηγουμένου διὰ τοὺς γεωγράφους, καθηγητὰς καὶ φοιτητὰς τῆς γεωγραφίας ἐν Κύπρῳ.

Παρὰ τὸ γεγονὸς ὅτι ἡ μέθοδος χαρτογραφήσεως ἀπὸ χωράφι εἰς χωράφι, προϋποθέτει δυσκολίας ἕνεκεν τῶν ἀναχρονιστικῶν χωρομετρικῶν σχεδίων, ἐν τούτοις συνιστᾶται ἐν παραλλήλῳ πρὸς τὴν ἤδη δημιουργηθεῖσαν διὰ ἀεροφωτογραφιῶν.

Ἀξίζει νὰ ἀναφερθῆ ὅτι ἡ Βρεττανία, ἡ ὁποία προμηθεύει πολλὰς χώρας μὲ ἀεροφωτογραφίας καὶ ἐκτυπώνει τοὺς χάρτας χρήσεως γῆς πολλῶν χωρῶν τοῦ κόσμου, οὔτε κατὰ τὴν πρώτην χαρτογράφησιν τῆς χώρας τὸ 1930, ἀλλὰ οὔτε καὶ κατὰ τὴν δευτέραν χαρτογράφησιν, ἥτις ἤρξατο τὸ 1960, ἔκαμε χρῆσιν ἀεροφωτογραφιῶν. Ἡ Βρεττανία ἐχρειάσθη 10 ἔτη νὰ συμπληρώση τὴν πρώτην χαρτογράφησιν. Καὶ εἰς τὰς δύο περιπτώσεις ἡ Βρεττανία ἐχρησιμοποίησε τοὺς καθηγητὰς Πανεπιστημίων, τοὺς καθηγητὰς σχολῶν Μέσης Παιδείας, τοὺς δημοδιδασκάλους, φοιτητὰς καὶ μαθητὰς τῶν ἀνωτέρων τάξεων τῶν σχολῶν Μέσης Παιδείας, ὡς καὶ πολλοὺς ἄλλους ἐρασιτέχνας χαρτογράφους καὶ φίλους τοῦ ὠργανωμένου ταξιδίου.

Κατὰ τὴν τελευταίαν χαρτογράφησιν, τὸ Κράτος ἔπρεπε νὰ ἐπενδύση τοὐλάχιστον £1,000,000 ἐπὶ τοῦ σχεδίου χαρτογραφήσεως, ἀλλὰ ἐλπίζεται πὼς ἡ προαιρετικὴ προσπάθεια καὶ ὁ ἐνθουσιασμὸς τῶν Βρεττανῶν γεωγράφων, φοιτητῶν καὶ μαθητῶν, τῶν ὁποίων ὁ ἀριθμὸς ἀνέρχεται εἰς 3,000, θὰ φέρη τὴν ὅλην ἐργασίαν εἰς πέρας μὲ ἔξοδα μὴ ὑπερβαίνοντα τὰς £2,000.

Καὶ διὰ τὴν Κύπρον συνιστᾶται ἡ δημιουργία μίας ὑπηρεσίας, ἐθελοντῶν χαρτογράφων μὲ προσόντα γεωγραφίας, ἀγροτικῆς οἰκονομίας, χαρτογραφίας, γεωπονίας κλπ., ἢ καθηγητὰς γεωγραφίας καὶ φοιτητὰς Παιδαγωγικῆς Ἀκαδημίας, ὡς καὶ ἐκλεκτοὺς μαθητὰς τῶν ἀνωτέρων τάξεων τῶν Σχολῶν Μέσης Παιδείας.

Ὁ γράφων ὑποστηρίζει τὴν εἰσήγησιν αὐτὴν, διότι πιστεύει ὅτι εἶναι καιρὸς νὰ ἀρχίση νὰ δημιουργῆται μιὰ παράδοσις χαρτογραφήσεως χρήσεως γῆς ἐν Κύπρῳ ἀπὸ τεμαχίου εἰς τεμάχιον. Ὁ ἰδεωδέστερος τρόπος νὰ γνωρίση κανεὶς καλῶς τὸν τόπον του εἶναι νὰ τὸν ἐπισκεφθῆ ἀπὸ τεμαχίου εἰς τεμάχιον. Ἀπὸ προσωπικὰς

ἐπαφὰς ποὺ εἶχε μὲ φοιτητὰς γεωγραφίας, (ἐξωτερικοὶ φοιτηταὶ Πανεπιστημίου Λονδίνου) καὶ καθηγητὰς γεωγραφίας, ὑπάρχει ἕνας πυρὴν ἀπὸ τριάκοντα περίπου πρόσωπα, ἅτινα θὰ ἠδύναντο νὰ ἀρχίσουν τὴν ἐργασίαν. Σὺν τῷ χρόνῳ, ὁ ἀριθμὸς αὐτὸς ἐλπίζεται ὅτι θὰ ἀνεβαίνῃ καὶ θὰ περιλαμβάνῃ ὁμάδα ἐθελοντῶν ἀπὸ ὅλην τὴν Κύπρον, πρᾶγμα ποὺ σημαίνει πὼς ἡ κάθε ὁμὰς θὰ περιορίζεται εἰς τὴν χαρτογράφησιν τῆς περιοχῆς, ὅπου διαμένουν τὰ περισσότερα μέλη της. Οἱ περισσότεροι ἐθελονταί, βεβαίως, θὰ προέλθουν ἀπὸ τὰς ἀνωτέρας τάξεις τῶν Σχολῶν Μέσης Ἐκπαιδεύσεως, οἵτινες ἀφοῦ λάβουν εἰδικὴν ἐκπαίδευσιν ἐπὶ μίαν ἑβδομάδα, θὰ ἠδύναντο νὰ ἀρχίσουν τὴν χαρτογράφησιν τοῦ χωρίου των. Ἐὰν ὑποθέσωμεν ὅτι θὰ ἔχωμεν 200—300 ἐθελοντάς, ἢ ἐὰν οἱ ἐθελονταὶ αὐτοὶ δεχθοῦν νὰ ἐργασθοῦν μόνον μὲ ἕνα μικρὸν τίμημα, τότε ἡ χαρτογράφησις τῆς Κύπρου ἀποπερατοῦται εἰς περίοδον τριῶν θερινῶν διακοπῶν. Ἐὰν ἄλλαι χῶραι ἔχουν κατορθώσει αὐτό, διατὶ ὄχι καὶ ἡ Κύπρος; Εἶναι ὅμως ἀνάγκη νὰ γίνῃ πρῶτον δεκτὴ ἐκ μέρους τῆς Κυβερνήσεως ἡ ἰδέα περὶ χαρτογραφήσεως, καὶ δεύτερον νὰ εἶναι διατεθειμένον τὸ Κράτος νὰ ἐξοδεύσῃ ἕνα μικρὸν κονδύλιον δι' ὡρισμένα ἔξοδα.

17. Συμπέρασμα:

Ὡς ἔχει καταδειχθῆ ἐκ τῆς συντόμου αὐτῆς μελέτης, κατὰ τὴν διάρκειαν τῆς χαρτογραφήσεως συνηντήθησαν πολλαὶ δυσκολίαι, ἐξ αἰτίας κυρίως τοῦ μὴ ἐκσυγχρονισμένου Κτηματολογίου. Ὁ μὴ ἐκσυγχρονισμὸς εἰς σύντομον χρονικὸν διάστημα τοῦ Κτηματολογίου, θὰ ἐξακολουθήσῃ νὰ ἀναβιβάζῃ πολὺ τὸ κόστος ἐργασιῶν, ὄχι μόνον τῆς χαρτογραφήσεως χρήσεως γῆς, ἀλλὰ καὶ τῶν ἄλλων ἐργασιῶν ἄλλων ἀναπτυξιακῶν σχεδίων. Ἐπίσης ἔχει καταστῆ σαφὲς ὅτι ἡ Κύπρος, εἰς μίαν ἐποχὴν καθ' ἣν ἡ οἰκονομία της ἐξελίσσεται ραγδαίως καὶ ἡ γεωργικὴ της ἀνάπτυξις προχωρεῖ ἐπὶ προγραμματισμένης βάσεως, ἔχει ἀνάγκην ἀπὸ χαρτογράφησιν χρήσεως γῆς ἐπὶ μεγάλης κλίμακος.

Ἡ παροῦσα μελέτη, τὸ ἀποτέλεσμα πείρας, προσφέρεται δι' ὅλους ἐκείνους, εἴτε Κυβερνητικοὺς ὑπαλλήλους, εἴτε ὄχι, οἵτινες θὰ ἤθελον νὰ ἀναλάβουν χαρτογράφησιν τῆς Κυπριακῆς γῆς. Ἐλπίζεται ὅτι ἔχοντες ὑπ' ὄψιν τὴν πεῖραν ἥτις ἀπεκτήθη ἀπὸ τὴν Κισσόνεργαν καὶ ἄλλα χωρία τῆς Κύπρου, θὰ δυνηθοῦν νὰ φέρουν εἰς πέρας τὴν χαρτογράφησιν μιᾶς οἱασδήποτε περιοχῆς μὲ ὀλιγωτέρας δυσκολίας καὶ περισσοτέραν ἐπιτυχίαν. Ἐπίσης προσφέρεται δι' ἐκείνους, οἵτινες λαμβάνουν ἐνεργὸν μέρος εἰς τὸν προγραμματισμὸν περιφερειακῆς ἀναπτύξεως, ὡς καὶ δι' ἐκείνους ἀπὸ τοὺς ὁποίους θὰ ληφθῆ ἡ ἀπόφασις περὶ χαρτογραφήσεως ἢ ὄχι ὁλοκλήρου τῆς Κύπρου ἀπὸ τεμαχίου εἰς τεμάχιον.

Τέλος, ἡ ἐκπαιδευτικὴ προσφορὰ τῆς μελέτης αὐτῆς δὲν δύναται νὰ παραγνωρισθῆ, διότι τόσον οἱ ἐκπαιδευτικοὶ ὅσον καὶ οἱ μαθηταὶ γεωγραφίας τῶν ἀνωτέρων τάξεων Σχολῶν Μέσης Ἐκπαιδεύσεως, ἔχουν πλέον ἀνὰ χεῖρας ἕνα ὁδηγὸν διὰ τὴν χαρτογράφησιν μιᾶς μικρᾶς περιοχῆς γύρω ἀπὸ τὸ σχολεῖον, τὴν οἰκίαν ἢ τὸ χωρίον των.

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THE GEOMORPHOLOGY OF THE TROULLI AREA

By WILLIAM DREGHORN

Geomorphology is the study of land forms and by its very nature as a field science, a sound knowledge of the petrology of both igneous and sedimentary rocks is essential. The observer attempts to make an interpretation of the scenery he is looking at, but must be ever conscious of the fact that much of Cyprus scenery today is the result of what has happened during the last two million years. During this time there have been many changes of sea-level, many changes of climate and at intervals, earth movements often violent in the form of earthquakes. The term LAND FORMS could be substituted for NATURAL SCENERY; the beauty and picturesque quality of this island are enough to justify an expanding Government Department of Tourism.

Natural scenery suffers from a kind of inertia, for all that we see now has happened before, but the landscape is slowly changing now, and the effects of the present changes will not be manifest until the present cycle of climate and erosion comes to an end and the next one begins. A case in point is the familiar Kafkalla Crust. This was formed under different climatic conditions from today and we now see it slowly disappearing. Nowhere are the changes so rapid as in the coastal land forms. We are all aware that the appearance of a seaside beach will be quite different from the previous summer after the rough seas of winter. Cyprus will be quite different in a hundred thousand years. The situation today showing the major forces of erosion on the coast is shown in fig. 1.

An Apology

Readers will find it rather irritating to contend with both metric and English scales of measurement used in distances and heights above sea-level. We have mile posts on the roads, milometers in our cars and some maps are in kilometers and meters while others are in miles and yards. All are a legacy of the British occupation! Obviously, we should change over to metric entirely but what must be done with such names as Six-Mile Beach, Five-Mile Beach etc.?

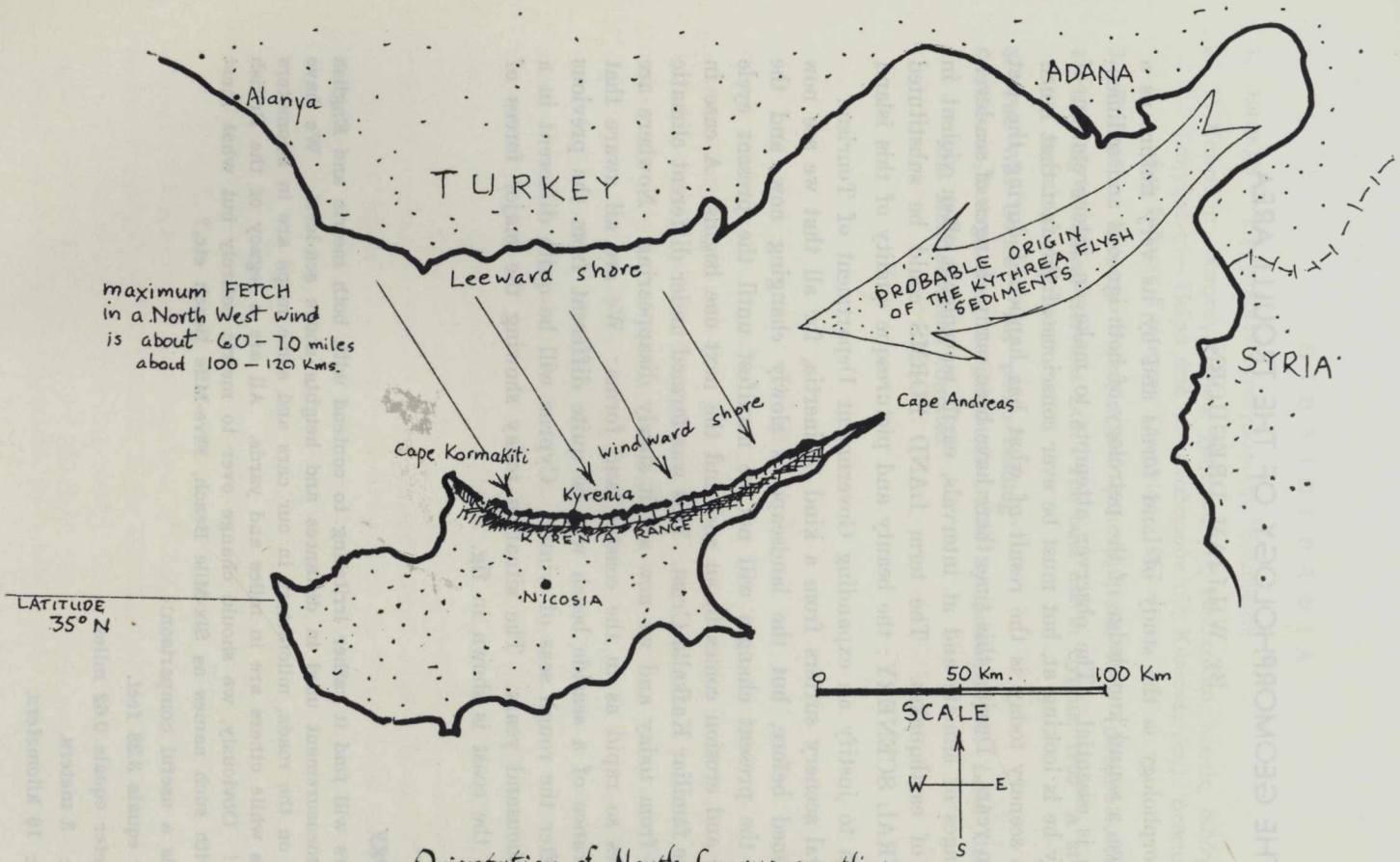
Here is a useful comparison:-

One meter equals 3.28 feet.

One kilometer equals 0.62 miles.

10 feet = 3 meters.

10 miles = 16 kilometers.



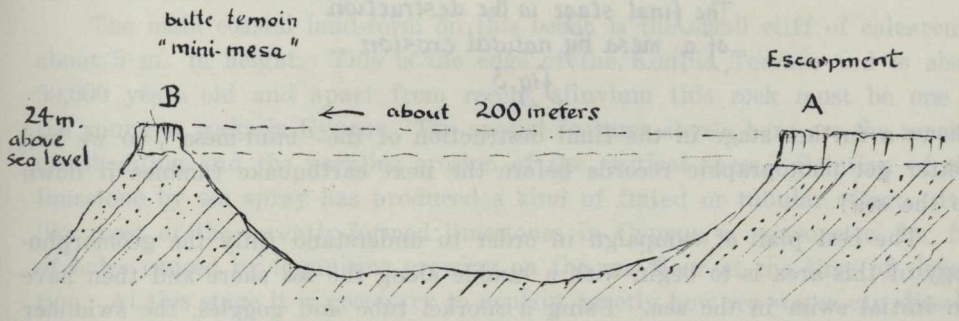
Orientation of North Cyprus coastline in relation to N.W. winds. 'Fetch' is the distance from the leeward shore to the windward shore.

fig. 1

The Geomorphology of the Troulli Locality

The locality of Troulli is on the seashore some 10 miles east of Kyrenia, close to the main road from Kyrenia to Ayios Ambrosios. This area could be the TYPE LOCALITY for understanding the coastal land forms from Vavilas to Cape St. Andreas and a detailed study is given in this article to act as a key to the understanding of much of the Kyrenia coastline. Most of the features which will be described are repeated in some hundred miles of the north coast of Cyprus. Also, one can find here many close links between geomorphology and archaeology and it is hoped that the references made with this correlation will tend to "humanize" the pure science of geology. It must be noted that geomorphology is really the geology of the last 2 million years of the Earth's history and most of the scenery which Man sees in the world today has been sculptured in this last period of time, known as the Pleistocene Period.

The cliff top is only a few hundred metres from the road and the view is made picturesque by the isolated hill standing out like some castle in Germany guarding the coastline as a lonely sentinel. It should be obvious that this craggy peak is a detached remnant of the limestone cliff on which the observer is standing and has been isolated by the processes of natural erosion. The diagram fig. 2



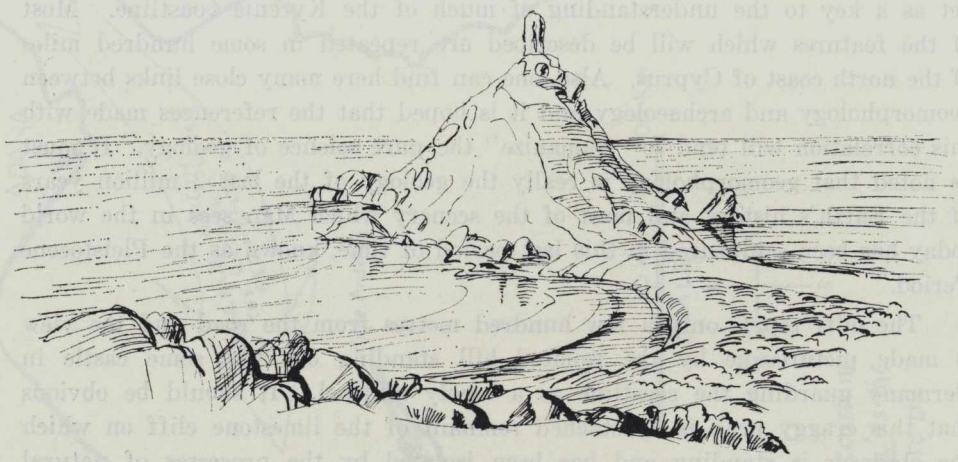
An example in GEOCHRONOLOGY.
Perhaps it took 100,000 years for natural erosion to remove the rocks between A and B.

fig. 2

explains this simple feature. The distance from A to B is about 200 metres and as the age of the limestone is about 100,000 years one can appreciate the amount of erosion that has occurred since that time. In fact the first

lesson of a geologist is to understand the concept of GEOLOGICAL TIME.

This "castle-like crag" is a small mesa or mini-mesa but the French term "butte temoin" is more appropriate for it implies that it is a witness of a former landscape. There are others along the coast, the second one to see is at 13 mile beach, further east along the coast at Alakati. The sketch, fig. 3.

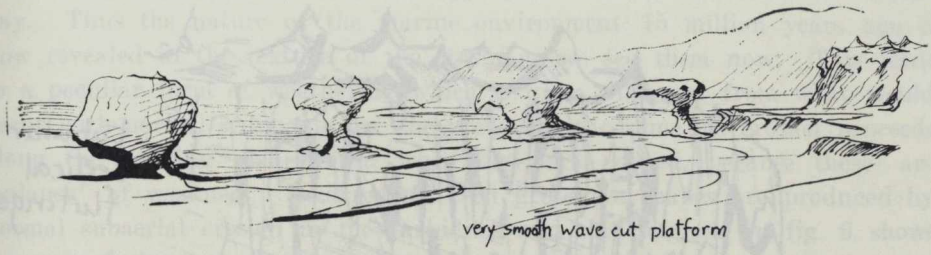


ALAKATI
13 miles east of Kyrenia.
The final stage in the destruction
of a mesa by natural erosion
fig.3

shows a further stage in the final destruction of the "mini-mesa", so we had better get photographic records before the next earthquake tumbles it down to the sea!

The best plan of campaign in order to understand fully the geomorphology of this area is to begin with a ramble along the sea shore and then have an initial swim in the sea. Using a snorkel tube and goggles, the swimmer can distinguish a submerged ancient shore line about 200m. off shore. This is a common feature of the Cyprus coastline and indicates a recent rise in sea level in the last 10,000 years. The generally-accepted explanation is that the sea-level all over the world has risen with the gradual melting away of the North Polar Ice Cap. (Eustatic change). In many places along the beach is a smooth rock platform covered with only a few inches of sea water — an admirable place for youngsters who want to paddle. This physical feature is very common in the Mediterranean where the difference between high water and low water, or tidal range, is only about one foot. This results in the waves attacking the rock surface at a more or less constant level and this also produces the toadstool kind of rock shown in fig. 4.

Most bays on the coast show two beaches at different levels, the higher one is the storm beach made up of large pebbles and boulders and the lower one with small pebbles and sandy stretches is the main beach. On the foreshore the pebbles consist of white Hilarion limestone, chert, Kythrea sandstone and igneous rocks. Occasionally one can find pieces of chipped flint that

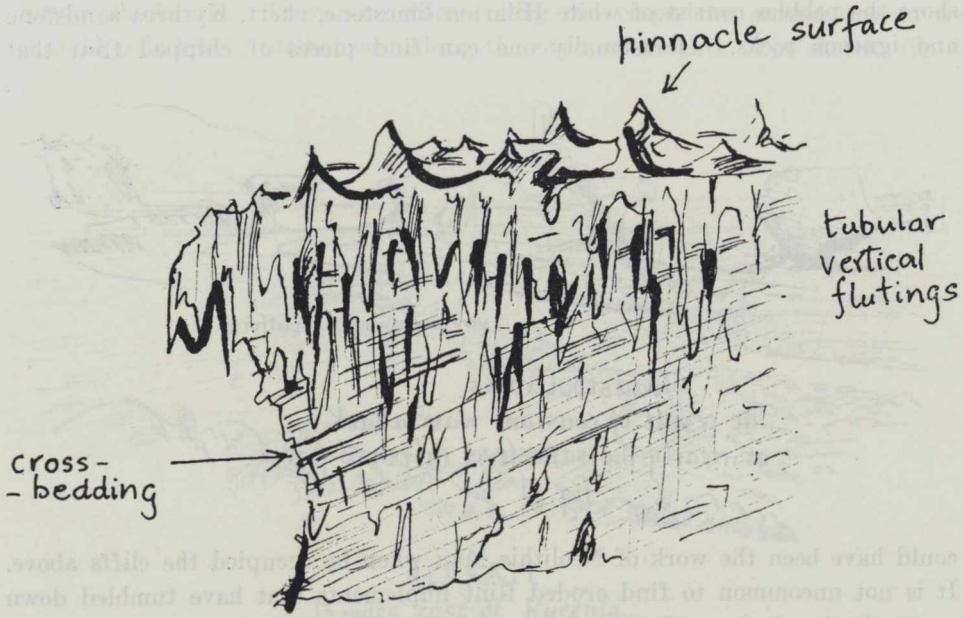


Toadstool rocks.
The result of constant wave attack
at nearly the same level in "pouro-petra.
fig. 4

could have been the work of Neolithic Man when he occupied the cliffs above. It is not uncommon to find eroded flint implements that have tumbled down on to the beach from above.

The main coastal land-form on this beach is the small cliff of calcarenite about 5 m. in height. This is the edge of the Koupia Terrace and is about 50,000 years old and apart from recent alluvium this rock must be one of the youngest rocks in Cyprus. The special features shown here are the marked crossbedding and the peculiar erosion of the vertical faces. Solution of this limestone by sea spray has produced a kind of fluted or tubular effect. It is like most of the recently-formed limestones in Cyprus, a pouropetra, i.e. full of holes caused by organisms growing on the sea floor at the time of deposition. At this stage it is necessary to explain exactly how sea water can dissolve limestone. Carbon dioxide is present in the air in small amounts (0.05%) but the amount dissolved in sea water is double this quantity. However, there are far more marine plants in the form of algae and diatoms living close to the sea shore and all their decomposition products create acid conditions. Hence sea spray is more than usually acid and so the solution of limestone rocks close to or within range of sea spray is very active. Now in the case of pouropetra the process of solution is much more rapid because of its cellular texture and so we see the fluted surfaces on the vertical faces and an extremely jagged surface on top. The beachcomber in Cyprus is fully aware of these cruel sharp spiky limestone surfaces on all pouropetra rocks within range of sea spray.

The diagram fig. 4 shows a characteristic solution features of the Koupia calcarenite.

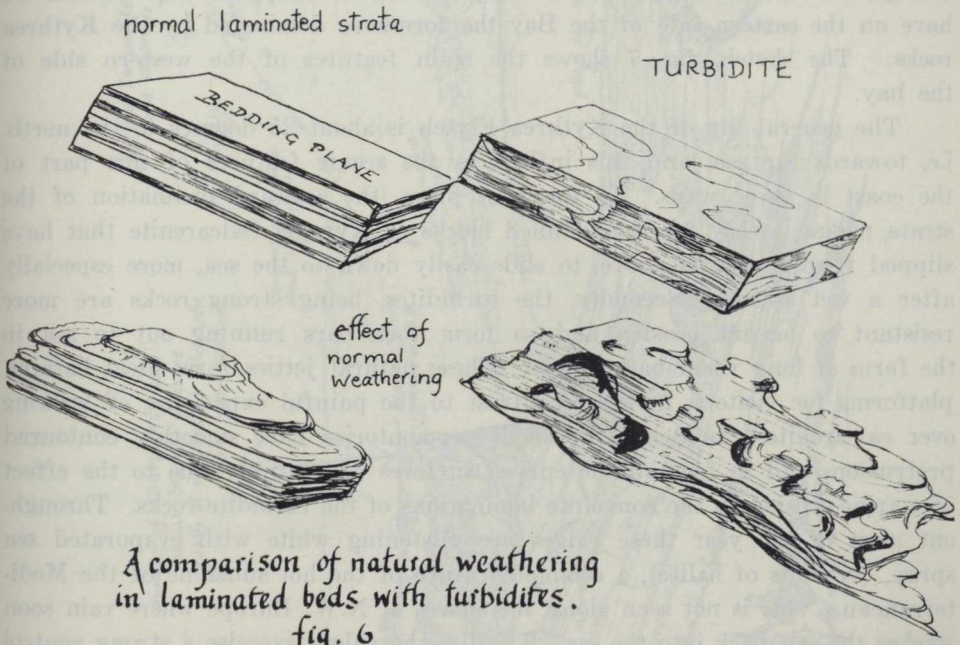


The result of solution by sea-spray in the Koupia calcarenite.

fig. 5

The block diagram, fig. 19 shows that the basement rocks of the whole area belong to the Kythrea Formation of the Middle Miocene period in geological time. These are mainly strong rocks of sandstone which outcrop on the hillside and in places along the foreshore. They stand out like ribs forming a scaffolding or framework over which the younger calcarenites of the Pleistocene period are superimposed. The Kythrea rocks were laid down in the sea some 15 million years ago at a time when the mountains of the Kyrenia range were being uplifted. Large rivers flowing from Eastern Turkey poured gravel, sand, silt and clay into this sea. Such a deposit is known as Flysch so that the whole series of rocks are known as the Kythrea Flysch. The layers of sediment were deposited under disturbed conditions of the sea floor, sands and clays being swept along the sea floor by easterly currents. The conditions

at that time (Middle Miocene) were turbid and such rocks are known as TURBIDITES in contrast to the normal conditions in which we find the layers of sediment compacted together just like the leaves of a book, well bedded down in parallel layers. Close examination of the Kythrea rocks shows convolute laminations both on the bedding planes and on exposed edges. This is well seen in the rocks outcropping close to the foreshore in Troulli bay. Thus the nature of the marine environment 15 million years ago is now revealed in the texture of the strata as we see them now. This leads to a peculiar form of weathering which is quite different from what would occur with normal sediments but the process is the same i.e. erosion proceeds along the bedding planes even when they are curved, because these are "planes" of weakness. Bizarre and even grotesque shapes are produced by normal subaerial erosion in the turbidites and the diagram on fig. 6 shows the main features.



A comparison of natural weathering in laminated beds with turbidites.
fig. 6

When conditions of deposition became less disturbed calcareous clays (marls) were laid down on the sea floor so that the Kythrea Flysch mainly consists of alternating bands of gritty sandstone called greywacke and beds of clays. Here in this area the greywacke or sandstone beds form the bold features of topography. More details about the land forms associated with the Kythrea will be given in the next article on the Klepini area.

It is necessary for geomorphologists to know details concerning the origin

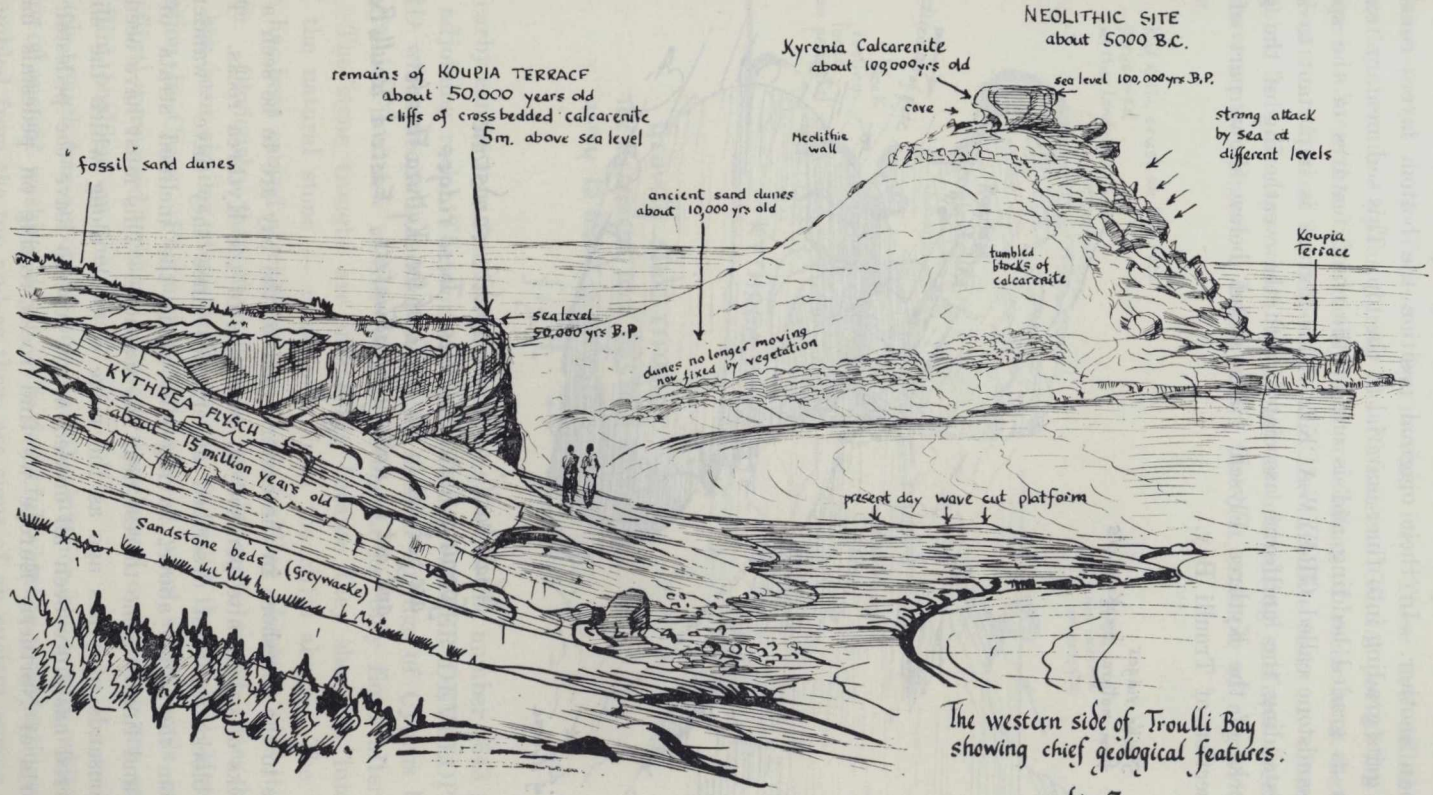
of the rocks that control the landscape because it gives the key to the understanding of how the rocks are sculptured in the normal processes of weathering. Finally, it should be obvious why this apparently strong rock of the greywacke type is useless as a building stone, because it will not split into flat slabs to make building blocks.

Proceeding towards the eastern side of Troulli Bay we pass the small cliffs composed of the Koupia Calcarenite which are only about 5 m. in height and the top represents the level of the sea some 50,000 years ago. Here can be seen a clear example of an unconformity where the calcarenite rests on the upturned edges of the steeply-dipping Kythrea Flysch. It is worth pondering on the great lapse of time represented by the plane of unconformity, perhaps from ten to fifteen million years. The weathering of the turbidites can be studied here and their strong khaki colour adds a splash of colour to the greys of the calcarenites. At this point the coastal land forms change, for the sand dunes and Koupia Terrace disappear and instead we have on the eastern side of the Bay the foreshore dominated by the Kythrea rocks. The sketch, fig. 7 shows the main features of the western side of the bay.

The general dip of the Kythrea Flysch is about 25 degrees to the north, i.e. towards the sea, and this influences the scenic features of this part of the coast in three ways. In the first place, the seaward inclination of the strata makes it easy for the tumbled blocks of Kyrenia Calcarenite that have slipped from the cliffs above, to slide easily down to the sea, more especially after a wet season. Secondly, the turbidites, being strong rocks are more resistant to marine erosion and so form rock bars running out to sea in the form of long whale-back ridges. These natural jetties form ideal bathing platforms for visitors, in great contrast to the painful experience of walking over calcarenite. In detail the small promontories have smoothly contoured protrusions and in fact all the curved surfaces are entirely due to the effect of marine erosion on the convolute laminations of the turbidite rocks. Throughout most of the year these ridges are glistening white with evaporated sea spray, (crystals of halite), a common feature of the hot sunshine of the Mediterranean. This is not seen along the shores of N.W. Europe where rain soon washes the salt back into the sea. Thirdly, the ridges exercise a strong control on the shape of the bay for they act as breakwaters, allowing marine sediments to collect on one side, thus forming "baylets" or tiny coves within the main bay.

On the Atlantic coasts, Man has constructed breakwaters along the seashore near harbours; each breakwater acts as a collecting place for beach material which would otherwise drift into the port and silt it up.

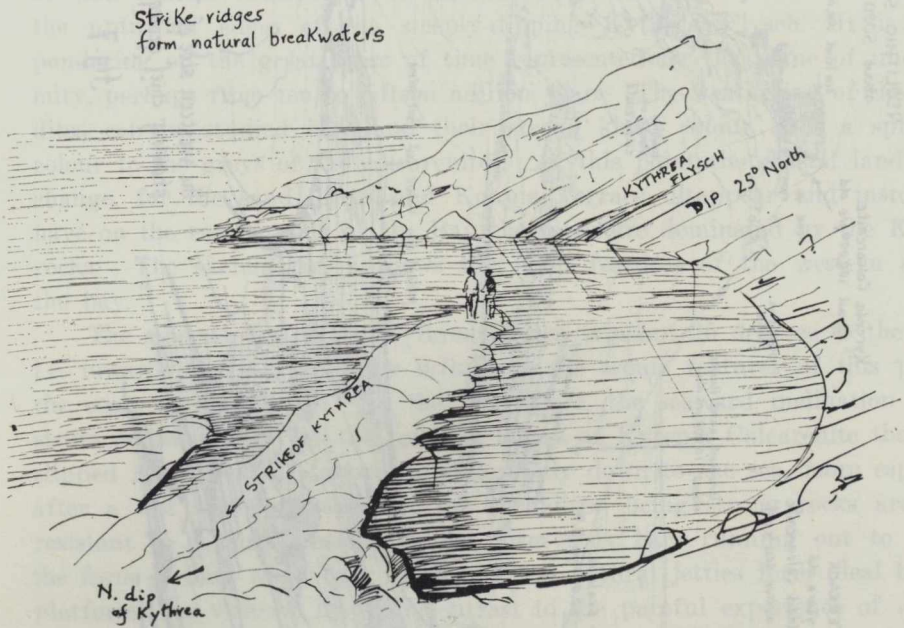
The amateur geologist may like to rub his hand over the relatively smooth surface of the turbidite ribs, just to get the feel that it is a good sandstone



The western side of Troulli Bay showing chief geological features.

fig. 7

rock, but further investigation shows that this gritty rock is coarser in some layers than another. In their original position the bottom layers consisted of coarse grits grading into finer material at the top. This sedimentary texture is known as graded bedding and is one of the chief features of the special type of sandstone called GREYWACKE. This texture is important to know in understanding the landforms associated with the weathering of the greywacke rocks of the Kythrea Flysch. The sketch below shows part of the eastern section of Troulli Bay.

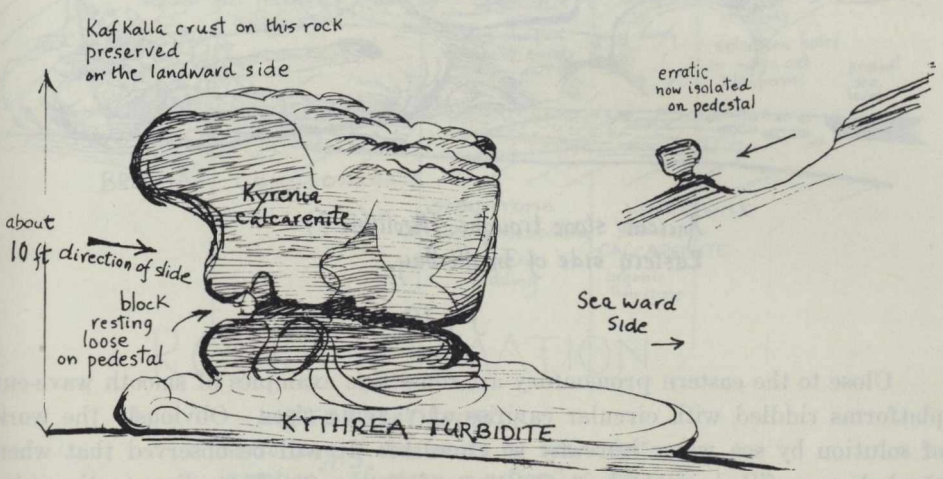


"Whale back" ridge of turbidite sandstone forming natural jetties. These ridges are parallel to the strike of the Kythrea Flysch and act as natural breakwaters. Eastern Troulli Bay.

fig. 8

Close to the foreshore in the eastern part of the bay are to be seen a few large blocks of calcarenite perched on pedestals of the Kythrea rocks. These perched blocks are best described as erratics since they have "wandered" down from the cliffs above, having slid along the inclined strata of the Kythrea and finally come to rest near the seashore. This must have occurred many thousands of years ago as the ridge of rock along which the sliding has occurred has since been all eroded away, just to leave the pedestal. In many parts of Northern Europe we find rocks resting on pedestals having

been transported long distances by moving ice. These are called glacial erratics but here in Cyprus during the Pleistocene Glacial period the climate was much wetter than it is today and so sliding of rocks must have been more common. It must be noted here that the turbidite rocks are often placed with thick beds of clays which would act as lubricating surfaces accelerating rock movements. Figure 9 below shows the best example of a gravity slide erratic.



Gravity slide erratic.
The basement rock has been eroded away to leave a pedestal.
fig. 9.

Nearby can be seen four large stone troughs with the number 3643 painted on an adjoining rock. The number refers to the WATER DEVELOPMENT BOARD which keeps a record of all the natural springs of Cyprus but the spring, which is a few metres from the stone tanks, only flows after heavy rains. The stone troughs are interesting because they show an intelligent use of the natural stone — calcarenite from the cliffs above. The longest trough has been carved at right angles to the bedding planes to give it greater strength. Obviously, they have been in use in quite recent times but the writer has seen similar stone tanks in the ruins of the ancient Mycenaean civilisation in Crete. For many thousands of years stone mauls made of chert (flint) were used to carve all stone vessels and even today one can find many flint boulders on the beach.

Each trough has an outlet hole and the interior has a thin white crust, a legacy of ancient washing days. It is doubtful whether these antiques could have tumbled from the top and as there are signs of an ancient spring nearby

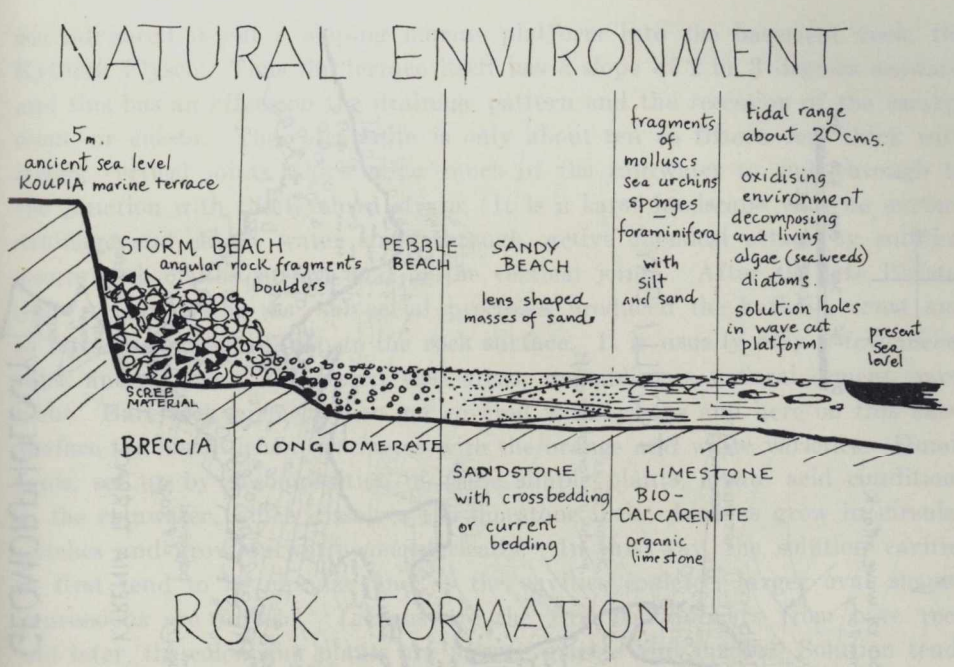
the place where the stones now rest is probably the site of the Neolithic "watering place."

Ancient stone troughs. (Neolithic ?)
Eastern side of Troulli Bay.

fig. 10

Close to the eastern promontory are some fine examples of smooth wave-cut platforms riddled with circular cavities of varying sizes. Obviously the work of solution by sea water but why so circular? It will be observed that when the holes are filled with sea water most of the green algae cling to the sides so that solution proceeds more rapidly here and in this way the dissolving processes seem to act concentrically. More algae lead to more decomposition acids, and in time, many of the cavities coalesce to form much bigger depressions. It is in fact a miniature marine karst topography about which no geomorphologist has yet written. The eastern promontory of Troulli Bay can be described as a "dead cliff" since marine erosion of the base has been almost stopped by the accumulation of fallen blocks of calcarenite on the sea shore in front of the cliff. Dead cliffs tend to stabilize headlands along the coast and in time marine erosion will make them into islands. If later, an island becomes joined to the mainland again by a sand bar or sand dunes the name 'tombolo' is used.

This completes the analysis of the foreshore and the summary shown in fig. 11 is an attempt to show the processes by which rocks are made but before lithification has begun. It is the study of geology in action in this way that has led in recent years to the new division of geology called, PALAEO-ECOLOGY. The geomorphological sketch map which follows, fig. 12, is an adaptation of the general principles of coastal land forms to this particular area. Conditions on the sea shore are constantly changing and the summary in fig. 11 shows what one would find on the beach after normal conditions had been operating for some time. Strong winds and rough seas



LITTORAL DEPOSITS

The sorting of sediments by sea water in motion. "Geology in action", or, how marine rocks are made. The raw materials of geology. The diagram explains the origin of :-

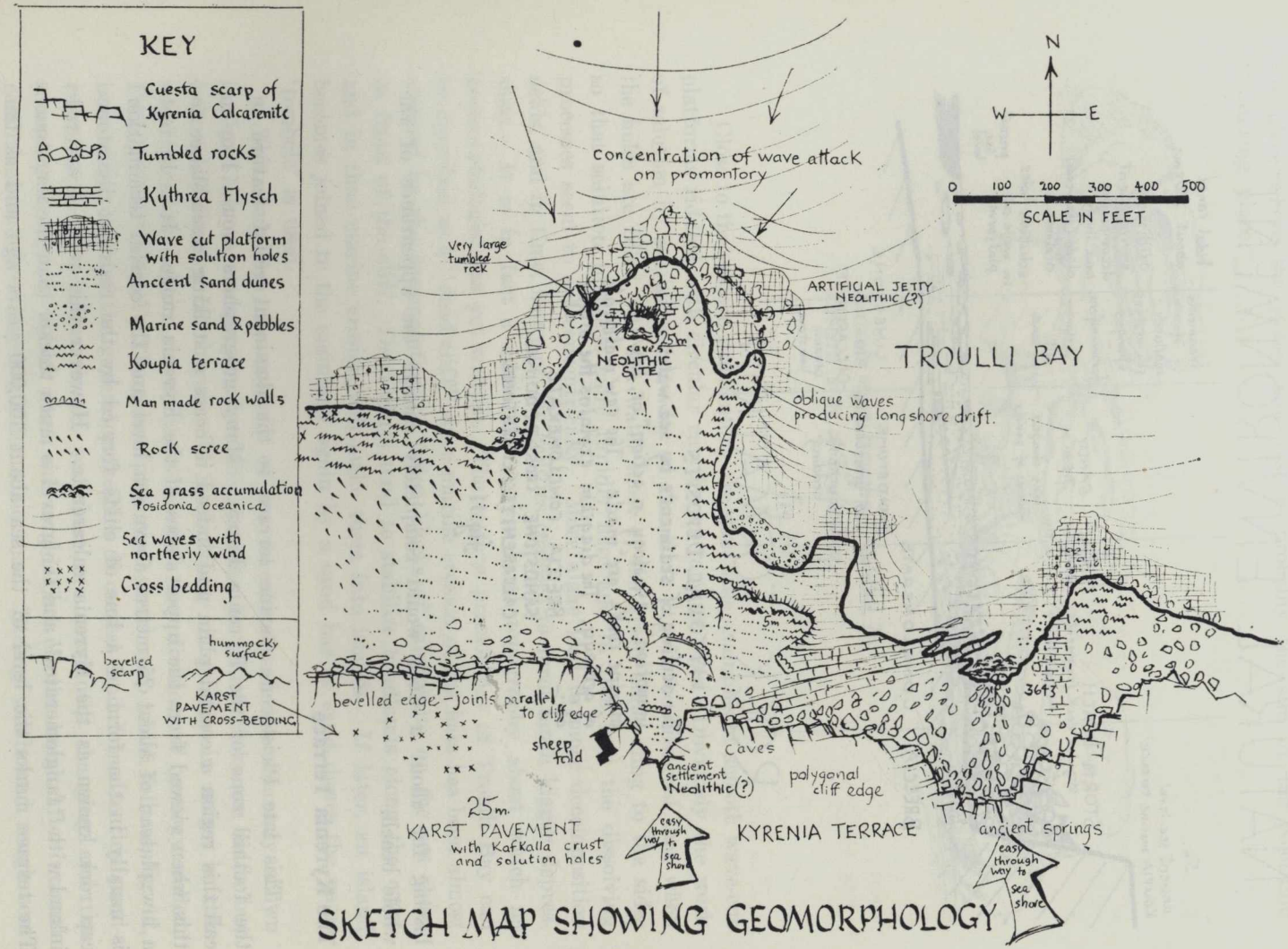
BRECCIA, CONGLOMERATE
SANDSTONE, CROSS-BEDDING
CALCARENITE, LIMESTONE

fig. 11

lasting for about a week would completely change the appearance of the whole beach.

The Kyrenia Terrace

This late Pleistocene marine terrace is the dominant relief feature in the foothill zone of the Kyrenia Range. Many geographers would like to call this region a coastal plain and indeed it bears a striking resemblance to this when viewed from the upper slopes of the Kyrenia range. It is in fact a low plateau of about 25 metres above sea level and the coastal termination is usually in the form of a line of cliffs formed by the resistant limestone cap rock known as the Kyrenia calcarenite. However this rock is covered inland with "fanglomerates" and the gravel is much thicker than the limestone. The terrace marks the level of the sea about 100,000 years ago and as the



SKETCH MAP SHOWING GEOMORPHOLOGY OF TROULLI BAY

fig. 12 TEN MILES EAST OF KYRENIA

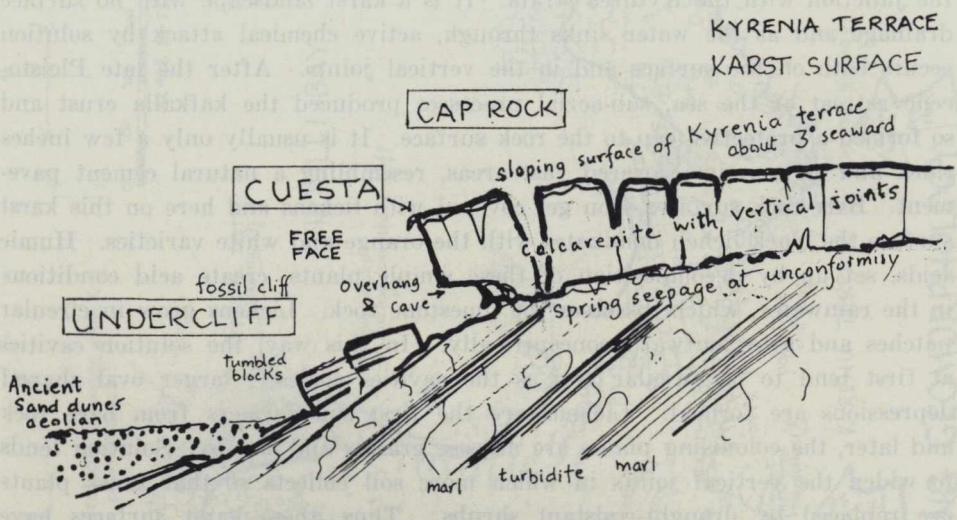
sea advanced it cut a sloping marine platform into the basement rock, the Kythrea Flysch. Thus the terrace itself has a slope of 2 or 3 degrees seaward and this has an effect on the drainage pattern and the recession of the escarpment, or cuesta. The calcarenite is only about ten to fifteen feet thick with strong vertical joints which allow much of the rainwater to sink through to the junction with the Kythrea strata. It is a karst landscape with no surface drainage and as the water sinks through, active chemical attack by solution occurs both on the surface and in the vertical joints. After the late Pleistocene retreat of the sea, sub-aerial processes produced the kafkalla crust and so formed a protective cap to the rock surface. It is usually only a few inches thick and at one time covered vast areas, resembling a natural cement pavement. Bare rock surfaces soon get covered with lichens and here on this karst surface the black lichen dominates with the orange and white varieties. Humic acids, set up by decomposition of these simple plants, create acid conditions in the rainwater, which dissolves the limestone rock. Lichens grow in circular patches and grow outward concentrically. In this way, the solution cavities at first tend to be circular and as the cavities coalesce, larger oval shaped depressions are formed. Lichens are the first soil formers from bare rock and later, the colonising plants are mosses, grasses and shrubs. Solution tends to widen the vertical joints in which more soil collects so that grass plants are replaced by drought-resistant shrubs. Thus, these karst surfaces have their own special natural vegetation which can be seen in places near the cliff edge. In places there are patches of reddish soils which are said to be the product of a different climate from that of today in Cyprus. These "terra rossa" soils are to be found in many limestone areas in Cyprus, but in general, such soils are forming today in all limestone areas which have a long dry season. The cause is due to the leaching out of carbonates by solution to leave the iron salts as a residue in the soil.

The diagram below, fig. 13 shows the two main profiles of the cliff face with the general terms used by geomorphologists. CUESTA is the name given to an escarpment which has been developed in nearly horizontal strata while the term "free face" refers to a more or less vertical natural cliff face of bare rock.

It is evident that much of the kafkalla crust is disappearing under present day climatic conditions in Cyprus and once this protective cap dissolves away erosion of the calcarenite below proceeds much more rapidly. This process is accelerated by the honeycomb texture, of the rock better known as pouropetra, — full of holes of all sizes. As the crust dissolves away mechanical erosion now becomes active, the rock expanding under daily sun temperatues of about 35°C and contracting at night when the temperature falls to 17°C. The surface becomes strewn with screes which are collected into small heaps by local farmers in order to expand the grazing capacity of the land. Some of

the heaps with large stones are probably from collapsed ancient stone buildings going back to the Neolithic period. Part of the terrace edge here was an occupation site about 5000 B.C.

Some areas on the plateau how a more hummocky surface with a regular pattern of ridges only a few feet in height. This is due to cross-bedding in



Geomorphology of the cuesta and undercliff at the Troulli escarpment.

fig. 13

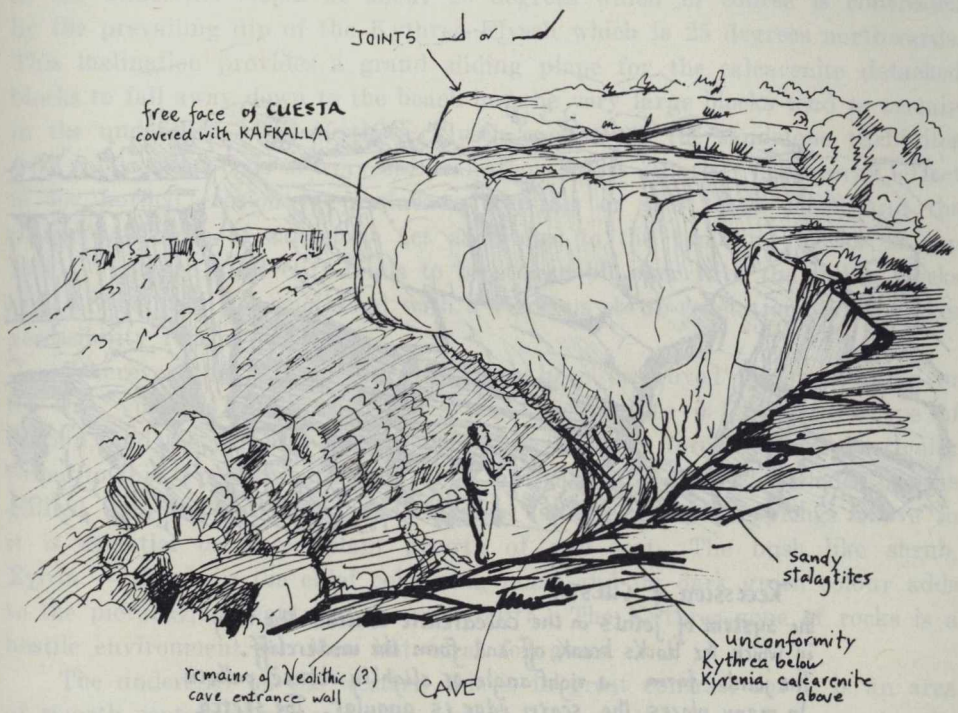
the calcarenite and the effect is to slow down considerably the solution effect, since these mini-scarps shed the mainwater down on to the "pavement" surface below.

This karst surface is a difficult one for Man and his land use; the kafkalla pavement, rocks screes and thin soils are the main negative features. For ancient man it was perhaps a positive environment for it meant easy movement in a region of sparse vegetation and abundant rock shelters in the undercliff.

The Cuesta

The cliff is formed of calcarenite which is quite a tough rock and forms a resistant capping to the weak strata of the underlying Kythrea Flysch. Originally, this was an ancient coastline in late Pleistocene times and is now receding rapidly under subaerial erosion. The strong vertical joints are the main planes of weakness and as the joint system has a somewhat regular pattern, this is reflected in the scarp edge. It is angular in detail with

corners of either 90° or 100° giving a polygonal edge to the cliff. This is shown in fig. 14 and reference should be made to the geomorphological



The free face of the cuesta and the undercliff towards the eastern side.
Cave formation at the unconformity.
fig. 14

map, fig. 12. The huge blocks that become detached and tumble down to the undercliff tend to be quadrilateral in shape, except where the alignment of the scarp edge becomes nearly parallel to a master joint. This leads to a peeling-off process as shown in fig. 15 and the early Neolithic settlers took advantage of this in constructing their shelters.

The vertical joints tend to widen out near the cliff edge and this hastens the process of complete detachment. Moreover, rain water sinking through the cap rock tends to accumulate at the junction with the Kythrea clay rocks and a greasy, inclined, sliding plane is formed. In places it seems as though the huge blocks of cap rock, many weighing more than 50 tons, have tumbled off in one violent earthquake, for they are all lying on the undercliff in a jigsaw puzzle plan. The spring-line is usually at the unconformity and the strong seepage has produced a series of caves in the undercliff. The rock waste,

chiefly clays and sands accumulate by running water action at the mouth of the cave, forming a convenient platform. (see fig. 15). Geologists find that

Recession of CUESTA.
The system of joints in the calcarenite controls the way in which the blocks break off and form the undercliff. The joints form a right angle or slightly obtuse pattern. In many places the scarp edge is angular. The sketch above is taken from the eastern side and shows how the orientation of the cuesta in relation to these joints, in this case, results in a concentric "peeling off."

fig. 15

the unconformity can be closely studied in the cave interior and as it represents an ancient sea shore the caves are good hunting places for macro fossils, chiefly corals and bivalves.

It is difficult to estimate the rate of recession of the cliff top but if we exclude the effect of the joints, normal weathering of the cap rock would be about two inches per year. Very small indeed, for it is a tough rock and yet a sudden tumble after a wet season would bring a fall-back of the cliff edge of six feet or more. Under normal conditions, and without the intervention of earthquakes, perhaps an average recession of two feet per year is probable. The free face of the cliff is well covered with kafkalla and is too remote from the sea shore to be affected by the dissolving action of sea spray. The crust often produces a cliff-top overhang which is not so impressive as the much bigger overhang that occurs at the unconformity.

The Undercliff

In great contrast to the vertical free-face of the cap rock, the profile of the undercliff slopes at about 25 degrees which of course is controlled by the prevailing dip of the Kythrea Flysch which is 25 degrees northwards. This inclination provides a grand sliding plane for the calcarenite detached blocks to fall away down to the beach but the very large blocks tend to remain in the undercliff. The Kythrea Flysch consists of the sandstone turbidites with intervening beds of very soft calcareous clays (marls). The overall effect is for normal erosion to produce a step-like or saw tooth slope, and the projecting knobs of sandstone act as brakes to the tumbling blocks of cap rock. Thus the undercliff tends to be strewn all over with the fallen blocks and in time they get smothered with a vigorous shrub-vegetation which makes accessibility rather difficult.

Wherever the natural vegetation has been destroyed by overgrazing or by fire, vigorous soil erosion takes place to produce a "badland" type of terrain, and the turbidite sandstones of the Kythrea formation are particular prone to this type of weathering. The intercalated beds of clay shales become gullied with the action of small rivulets issuing from the springs above so it is essential to foster plant growth of any sort. The bush like shrub, Σχινιὰ — Skinia is the chief colonising plant and its dark green colour adds to the picturesque beauty of the undercliff. The Kythrea zone of rocks is a hostile environment for Man but ideal for goats.

The undercliff on the western side is in great contrast for it is an area of smooth contoured slopes falling gently down to the Koupia terrace by the seashore. This is an area of ancient sand dunes of which there are many along this hundred miles of the north Cyprus coast. Quite a large area of fossil sand dunes can be seen near Six-mile beach, east of Kyrenia. These sands must have been blown in by a dominant westerly wind from vast sand flats in the bay to the west of Troulli, under different climatic conditions from today. The change of climate has led to the colonisation of the dunes by special plants and so stopped their migration — they are said to be "fossilised". As the sands overlie the Koupia terrace, the time of deposition by the winds may be about 10 to 20 thousand years ago. Close examination of the sand grains seems to indicate their source being the Kythrea Flysch, but the grains are not so rounded as the aeolian sands of Middle-East deserts.

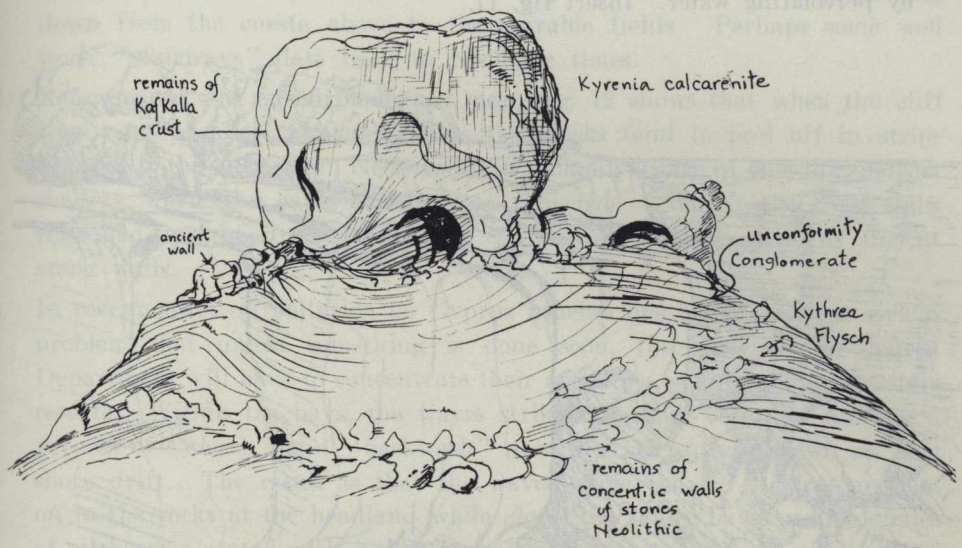
Troulli Peak

This picturesque solitary peak is an isolated remnant of the Kyrenia Marine Terrace which has been separated from the main cuesta by vigorous erosion in the last 100,000 years. Perhaps the name Troulli Tor could be an alternative, since the name TOR is given to peaks which are surmounted

by a clump of rocks in south western England. The bulk of the hill is composed of the Kythrea Flysch which outcrops in places on steep slopes but much of it is concealed by fallen blocks from the cap rock. The actual junction with the cap rock (calcarenite) can be studied in detail, and in safety, compared with the dangerous overhanging cliffs in the cuesta opposite. Well-marked bands of conglomerates occur at the unconformity where many kinds of macro-fossils can be found, such as, bivalves, gastropods and fragments of coral debris. This was the sea level about 100,000 years ago and there is evidence here that in those times coral reefs grew on the basement Kythrea rocks. There are two caves at this level which might have been occupied in Neolithic times but evidence at Khirokitia and other places in Cyprus seems to show that in those far-off times the folk built either rectangular houses or *tholoi*. It is possible that the caves opposite could have been used by Palaeolithic Man and later used as cattle shelters by the Neolithic settlers. Most of the terrain outside these caves here on the peak shows a very much disturbed soil. Villagers long ago believed that this was a royal tomb and much digging, and looting took place. In southern England many Neolithic tombs were looted for "buried treasure" in the Middle Ages. Most of the debris around consists of stone screes, pottery sherds and pieces of flint. Recently, a Swedish archaeological expedition excavated here and a trial bore some 5½ metres in depth was made near the caves. At the lowest level were found flint flakes, obsidian tools and fragments of stone vessels. This is strong evidence that this bottom layer represents the pre-pottery stage of Neolithic culture known as Neolithic 1A and dates from about 6,000 B.C. Upper layers show sherds of pottery with red and white patterns, said to be the earliest ceramic culture in Cyprus, termed Neolithic 1B and dates from about 5,500 B.C. Nearby, the expedition excavated remains of a rectangular house with round angles but no human remains were found. Looking down from the hill top to the north-eastern foreshore, one can detect a curvilinear arrangement of fallen rocks resting on the wave cut platform. Clearly it is a man-made feature and could possibly be an ancient harbour. See map, fig. 12. Unfortunately some rascal has recently been practising flint chipping by the cave, just to confuse the archaeologist and of course invoke his anger. On the north western side of the peak are large tumbled blocks of the cap rock, one of which must be at least 100 tons, but many have come to rest on the wave cut-platform below and are now being sculptured by wave action into toadstool rocks.

Troulli peak dominates the landscape for miles around and is clearly seen from Klepini village and the Kyrenia mountains. Ancient folk probably used the marine terraces for hunting wild sheep and deer. They had to recognise the hunting rights of other tribes and so it was necessary to be able to signal to them, hence the reason for selecting an occupation site that

would enable them to see all around for long distances. The sketch below is a close-up view of the peak from the southern side and now we must hope for a fresh archaeological expedition to examine the ancient settlements in the undercliff opposite. Perhaps one day archaeologists will find the evidence of Palaeolithic Man in Cyprus, even Neanderthal Man. He was not far away, some 40.000 years ago, living in the caves of Mt. Carmel in Israel.



Trouilli Peak
The isolated hill with craggy rock summit is an eroded mesa, detached by erosion from the main Kyrenia calcarenite terrace

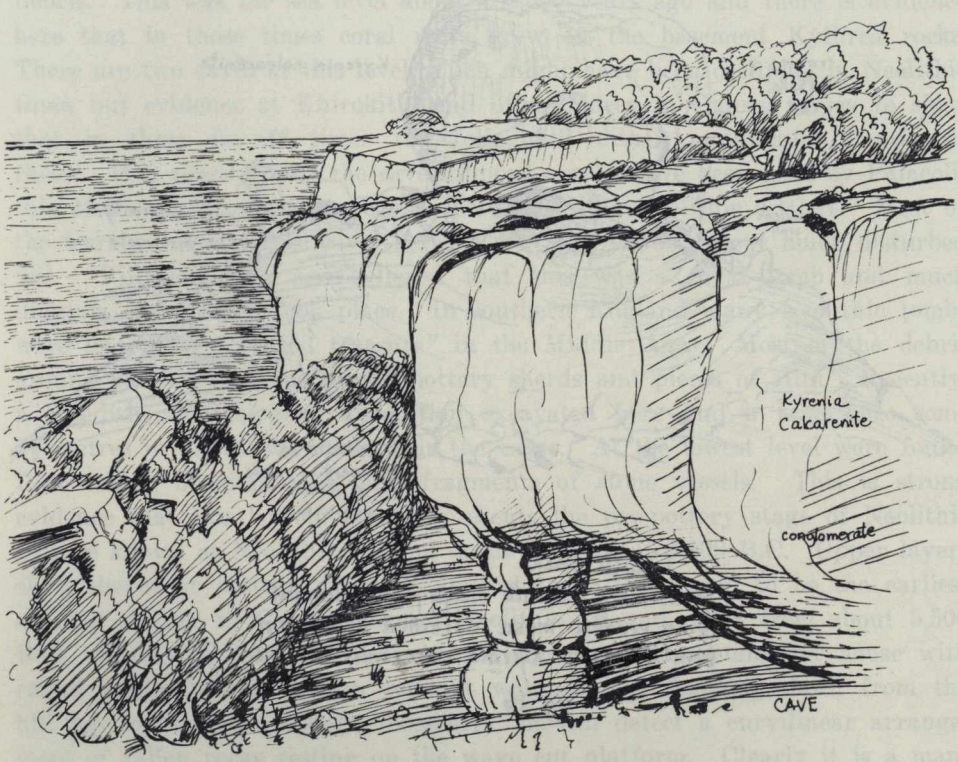
fig. 16

Geomorphology in the service of man

Some people regard the study of land forms as pure pedantry while others think that university professors of this subject are merely trying to satisfy their intellectual curiosity at public expense. Both of these suggestions are nonsense. The reader will find enumerated below some applications of geomorphology.

1. On the north coast of Cyprus many property owners have their buildings quite close to the cliff for reasons of tourism or just merely to get a sea-view. There is an impending disaster if the cap rock starts breaking off rather rapidly and, from what has been stated in previous pages, it should be obvious that to prevent slabs from falling away at the cliff

edge concrete pillars could be built in the undercliff to support the cave roofs where there is any overhang. These caves must have been in use for many thousands years and the occupants were well aware of the danger of roof falls and in many places we can see the remains of stone pillars. The sketch below is a restored example and can be seen on the eastern side of the scarp. Gaping joints should be filled in with concrete and then covered with bitumen to prevent further solution of the limestone by percolating water. Insert fig. 17.



Applied geology.
Man made stone pillar to prevent rock fall.
In this area on the eastern side of the Troulli scarp, are several caves with remains of supporting rock pillars. It is an ancient settlement, possibly Neolithic, but the place awaits further investigation by archaeologists.
Note the polygonal edge of the cuesta.

fig. 17

2. The zone of fossil sand dunes provides the local farmer with very good arable soils but it is mainly mobile for it rests on the hard Kythrea sandstones. Heavy winter rains would wash all this sand into the se-

especially when bare and without crops. The ultimate destination for all waste rock is the sea and this has been the case on this Earth for several thousand million years. However, stone wall barriers have been made in contour fashion to conserve the soil and in places the sandstone bands of the Kythrea are used for wall support.

3. The sawtooth like profile of the undercliff caused by outcropping beds of the Kythrea sandstones has made it very easy to sculpture steps leading down from the cuesta above to these arable fields. Perhaps some well worn "stairways" date back to Neolithic times.

4. Reference to the geomorphological map, fig. 12 shows that when the cliff edge runs parallel to master joints the blocks tend to peel off in strips parallel to the cliff edge. Neolithic Man took advantage of this to construct shelters when the caves became too crowded! Where the rock slabs remained upright after tumbling we can still see today remains of ancient stone walls.

5. In recent years oil pollution on Cyprus beaches has become such a serious problem that unless something is done soon, the Government Tourist Department will have to concentrate their activities on the inland mountain resorts. Within the bays, the waves strike the shore obliquely and by a process of "swash" and "backwash" produce the feature known as long shore drift. The result is that the waves drive the oil in large patches on to the rocks at the headland while along the sandy bays small globules of oil become coated with a thin crust of sand which sticks to the bathers' skin and clothes. One partial answer to the problem is to stretch small mesh nets across the bay to trap the oil as it floats inshore, but the nets would have to be strong enough to withstand rough seas in winter. An alternative is to spread a layer of clean sand over the beach at the beginning of every summer season. In many places along the coast one finds fossil sand dunes for the purpose, but its excavation would have to be done very carefully so as not upset the balance of nature, since the change of climate in the last few thousand years has fixed the dunes with natural vegetation.

6. The general grain of the rocks is known as the strike, which here in the case of the Kythrea Formation is east-west. When the strike is "en echelon" to the shore small protruding ridges of sandstone form natural jetties which act as groynes, the sand, seaweed and oil globules all collecting on one side. The erection of artificial groynes along bays might make the collection of oil an easier task.

7. The calcarenite rocks of the cuesta often contain beds of conglomerates. The included pebbles and boulders are mainly of silicate rocks such as flint, chert and various igneous rocks. When we see the conglomerate

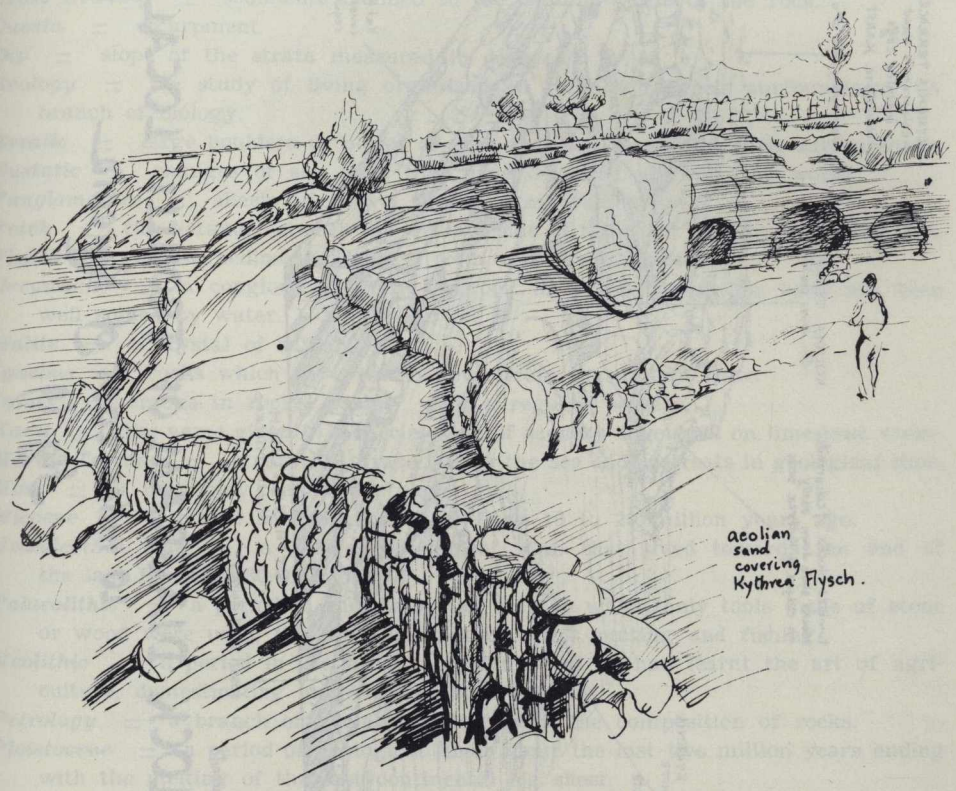
rocks lying on the foreshore the silicate pebbles are etched out in relief to give knobbly surface to the rock. This is because the matrix of the rock is calcareous and the sea water dissolves this out but leaves the silicate pebbles untouched. Seaside visitors and bathers are well aware of this when walking over concrete slabs where the sea has dissolved the cement matrix leaving the pebbles projecting. Builders must invent a kind of cement that the sea will not dissolve, some kind of silicone cement, for coastal and lido concrete work.

8. Stone Age man required a hard substance that would enable him to carve his stone utensils and provide sharp pointed weapons for hunting. The answer was flint or its variety, chert. This was found in abundance on the beach and in the conglomerates.

9. The karst pavement is strewn with rock screes which provide a ready to hand building material while larger building blocks can be shaped from the calcarenite blocks assisted by the strong vertical joints.

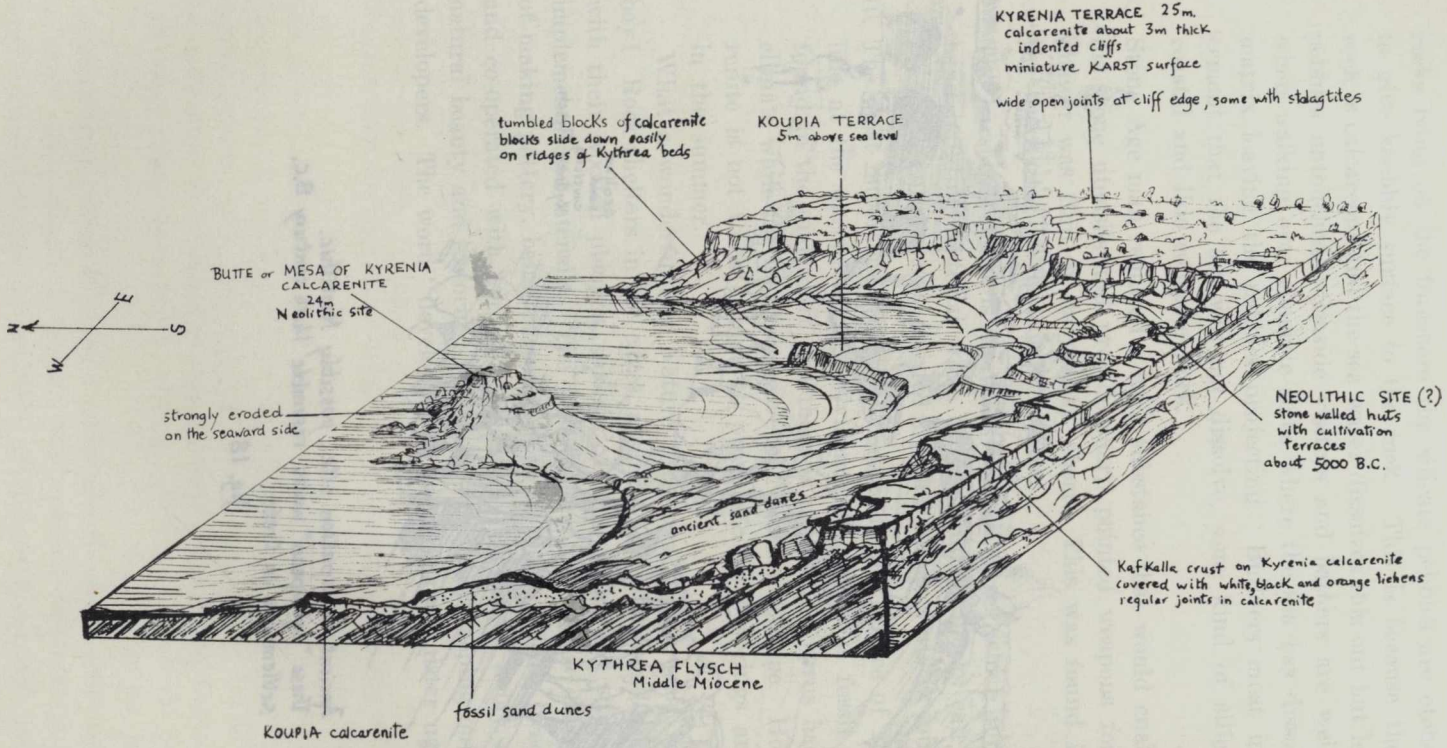
10. The most important geological feature in the service of Man is the spring line at the unconformity. Evidence of numerous fossil springs is to be found in the undercliff and there is no doubt Cyprus had a much wetter climate while the ice sheets covered Northern Europe. However, the calcarenite is not thick enough to provide copious springs and many dry up in the summer.

What a wonderful site Nature presented to the early settlers in Troulli bay! Rock shelters in the caves, a sandy soil in the undercliff, easy to work with their wooden ploughs, springs of pure water and stone of all kinds for implements and utensils. The first settlers in Cyprus did not know the art of making pottery, being pastoralists and hunters. They lived close to Nature and co-operated with her. We should do the same today and preserve the natural beauty and historical record of Troulli by keeping out any prospective developers. The word "development" today has a sinister ugly, undertone.



Ancient occupation site, possibly Neolithic.
These "cyclopean" walls resemble 14th century B.C.
settlements in Crete.

fig. 18



BLOCK DIAGRAM OF TROULLI LOCALITY

10 miles east of Kyrenia

fig. 19

GLOSSARY

Aeolian = wind borne, e.g. sands deposited by the wind.

Calcarenite = a limestone rock composed of tiny grains of limestone, of sand grain size. A detrital carbonate rock.

Conglomerate = very ancient gravel compacted into a rock.

Cove = a small bay.

Chert = a variety of flint, silica.

Cross Bedding = sediments inclined to the bedding plane of the rock.

Cuesta = escarpment.

Dip = slope of the strata measured in degrees.

Ecology = the study of living organisms in relation to their surroundings. A branch of biology.

Erratic = large boulders or pieces of rock that are foreign to their surroundings.

Eustatic = changes of sea level that have occurred all over the world.

Fanglomerate = sheets of gravel spread over wide areas.

Fetch = the distance between the leeward side of the coast and the windward side.

Flysch = coarse sediments derived from rapid sedimentation.

Greywacke = a conglomerate type or rock in which the grains have not been well sorted by water.

Halite = a crystal of salt.

Igneous = rocks which have cooled down from the molten state.

Joints = cracks in rocks, usually with a regular pattern.

Karst = the name given to a special kind of scenery developed on limestone rocks.

Marine Terrace = a natural terrace left by the sea as it retreats in geological time.

Marl = a limy clay, calcareous clay.

Miocene = a period of geological time from 10 to 20 million years ago.

Neanderthal Man = a species of ancient Man that lived towards the end of the last Ice Age, 30,000 yrs. B.P.

Palaeolithic = a period in the history of Man in which only tools made of stone or wood were used, the main occupation being hunting and fishing.

Neolithic = a period in the history of Man when he had learnt the art of agriculture, domesticating animals and later pottery.

Petrology = a branch of geology dealing with the composition of rocks.

Pleistocene = a period of geological time, about the last two million years ending with the melting of the last continental ice sheet.

Scree = masses of waste rock.

Strata = layers of rock.

Strike = the general trend of a group of rocks, the direction at right angles to the DIP.

Swash = waves breaking up the beach.

Terra Rossa = red soils, usually developed on limestone rocks.

Tholoi = stone beehive-shaped huts used in Neolithic times in Cyprus, best seen at Khirokhitia.

Tombolo = a former island which has been joined to the mainland by sand bars, so becoming a peninsula.

Unconformity = the actual physical contact between two series of rocks. It represents a long interval of time between the two different types of sedimentation.

ΟΙ ΑΝΕΜΟΙ ΩΣ ΚΛΙΜΑΤΟΛΟΓΙΚΟΝ ΣΤΟΙΧΕΙΟΝ

Ὑπὸ ΟΘΩΝΟΣ ΓΙΑΓΚΟΥΛΗ, B.A., M.Sc., M.G.S.A.

Ἀφορμὴν διὰ τὴν παροῦσαν μελέτην μοῦ ἔδωσε τὸ κεφάλαιον «Εἴδη ἀνέμων» τῆς Γεωγραφίας τῆς Β΄ τάξεως Γυμνασίου. Εἰς τὸ κεφάλαιον τοῦτο ὑπάρχουν ἀνακρίβειαι αἱ ὁποῖαι δύνανται νὰ προκαλέσουν σύγχυσιν εἰς τὸν μαθητὴν καὶ ἡ λανθασμένη ἐκμάθησις ὡρισμένων βασικῶν ἐννοιῶν τῆς γεωγραφίας δὲν θὰ ἐπιτρέψῃ εἰς αὐτὸν νὰ κατανοήσῃ εἰς μεταγενέστερα μαθήματα τοὺς διαφόρους κλιματικοὺς τύπους. Ὡς γνωστόν, αἱ ἄνεμοι ἐνέχουν μεγάλην σημασίαν τόσον ἀπὸ μετεωρολογικῆς ὅσον καὶ ἀπὸ κλιματολογικῆς ἀπόψεως.

Εἰς τὸ κεφάλαιον «Εἴδη ἀνέμων» ἀναφέρονται χαρακτηριστικῶς τὰ ἑξῆς διὰ τοὺς κανονικοὺς ἀνέμους:

> «Ὁ θερμὸς ἀὴρ τῶν περιοχῶν τοῦ Ἰσημερινοῦ ἀνέρχεται καὶ ὁ ψυχρὸς τῶν πολικῶν περιοχῶν κινεῖται πρὸς τὸν Ἰσημερινόν. Οἱ ἄνεμοι ἔπρεπε νὰ ἦναι Βόρειοι ἢ Νότιοι. Λόγῳ ὅμως τῆς περιφορᾶς τῆς Γῆς ἐκ Δ. πρὸς Α. εἰς τὸ Βόρειον ἡμισφαίριον γίνονται Β.Α. καὶ εἰς τὸ Νότιον γίνονται Ν.Α. Οἱ ἄνεμοι αὐτοὶ πνέουν καθ' ὅλην τὴν διάρκειαν τοῦ ἔτους καὶ λέγονται ἀληγεῖς».

Ἀφήνεται οὕτω νὰ νοηθῇ ὅτι οἱ ἀληγεῖς πνέουν ἐκ τῶν Πολικῶν περιοχῶν πρὸς τὸν Ἰσημερινόν. Οὐδεμία ἀναφορὰ γίνεται διὰ τοὺς Δυτικοὺς ἐπικρατοῦντας ἀνέμους ἢ διὰ τὸ γενικὸν σύστημα ἀνέμων καὶ τὴν ἐξάρτησίν του ἀπὸ τὴν κατανομὴν τῆς ἀτμοσφαιρικῆς πιέσεως ἢ καλύτερον τῆς ἀλληλοεξαρτήσεως τοῦ συστήματος ἀνέμων καὶ κατανομῆς τῆς ἀτμοσφαιρικῆς πιέσεως. Ἂς ἐξετάσωμεν ὅμως τὰ εἴδη ἀνέμων, τὰ αἴτιά των καὶ τὴν σημασίαν ποὺ ἐνέχουν ἐπὶ τῆς κλιματολογίας. Ἐὰν ὑποθέσωμεν ὅτι:

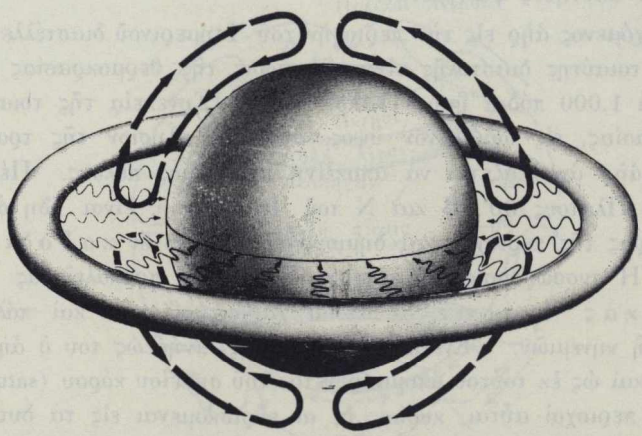
(i) ἡ Γῆ δὲν περιστρέφεται

(ii) ἡ ἐπιφάνειά της εἶναι ὁμοιογενὴς καὶ ὁμοιόμορφος καὶ

(iii) ἡ περιοχὴ τοῦ Ἰσημερινοῦ δέχεται ὁμοιόμορφον ἀκτινοβολίαν εἰς ὅλα τὰ μέρη της,

τότε αἱ ἀκόλουθοι παρατηρήσεις θὰ ἦσαν ὀρθαί: Ἐξ αἰτίας τοῦ γεγονότος ὅτι ἡ περιοχὴ τοῦ Ἰσημερινοῦ δέχεται μεγαλυτέραν ἡλιακὴν ἀκτινοβολίαν παρὰ αἱ πολικαὶ περιοχαί, ὁ Ἰσημερινὸς ἀὴρ θερμαίνεται καὶ συνεπῶς καθίσταται ἐλαφρότερος καὶ ἀνέρχεται· ἀφοῦ φθάσῃ πρὸς τὴν τροπόπαυσιν (σημεῖον χωρισμοῦ τροποσφαίρας ἀπὸ στρατόσφαιραν) ἀποκλίνει πρὸς τοὺς Πόλους. Εἰς τὴν περιοχὴν τῶν Πόλων ὁ ἀὴρ εἶναι ψυχρὸς καὶ ὡς ἐκ τούτου κινεῖται πρὸς τὸν Ἰσημερινὸν διὰ νὰ καταλάβῃ τὸ κενὸν ποὺ δημιουργεῖται. Ἑπομένως ἐὰν αἱ προϋποθέσεις-

τὰς ὁποίας ἐθέσαμεν ἦσαν δυναταί, τότε θὰ ἐδημιουργεῖτο ἓν κολοσσιαῖον ρεῦμα ἀέρος μεταφορᾶς (convection current). Πλησίον τῆς ἐπιφανείας τῆς γῆς ἡ ροὴ θὰ ἦτο ἀπὸ τοὺς πόλους πρὸς τὸν Ἰσημερινόν, ἐνῷ εἰς τὰ ἀνώτερα στρώματα τῆς τροποσφαίρας ἡ ροὴ θὰ ἦτο ἀντίστροφος, δηλαδὴ ἀπὸ τὸν Ἰσημερινὸν πρὸς τοὺς Πόλους. Ἐπομένως, ὅπως φαίνεται σχηματικῶς εἰς τὸ διάγραμμα 1, θὰ ἐδημιουρ-



Διάγραμμα 1: Σχηματικὴ παράστασις μὴ περιστρεφομένης γῆς, μὲ ὁμοιόμορφον καὶ ὁμοιογενῆ ἐπιφάνειαν καὶ ταυτόχρονον ἡλιακὴν ἀκτινοβολίαν εἰς ὅλα τὰ μέρη τοῦ Ἰσημερινοῦ. Εἰς ἀμφότερα τὰ Ἡμισφαίρια σχηματίζεται ρεῦμα μεταφορᾶς τὸ ὁποῖον καλεῖται «δακτύλιος Χάτλη».

γεῖτο ἓν εἶδος κυκλώματος, τὸ ὁποῖον εἶναι γνωστὸν ὡς «δακτύλιος Χάτλη» (Hadley cell), πρὸς τιμὴν τοῦ Γεωργίου Χάτλη, ὁ ὁποῖος πρῶτος τὸ συνέλαβε τὸν 18ον αἰῶνα. Πιθανῶς, ὁ συγγραφεὺς τῆς Γεωγραφίας τῆς Β΄ Γυμνασίου νὰ εἶναι ἐπηρεασμένος ἀπὸ αὐτὴν τὴν θεωρίαν, μολονότι τὴν τροποποιεῖ κάπως, λαμβάνων ὑπ' ὄψιν τὴν περιστροφὴν τῆς Γῆς. Ὅμως αἱ 3 προϋποθέσεις τὰς ὁποίας ἐθέσαμεν ἀνωτέρω, δὲν εὐσταθοῦν καὶ ὡς ἐκ τούτου ἡ κυκλοφορία τῆς ἀτμοσφαίρας ὑπόκειται εἰς οὐσιώδεις ἀλλοιώσεις. Ἐπειδὴ οἱ ἄνεμοι εἶναι ἄμεσα συνδεδεμένοι μὲ τὴν ἀτμοσφαιρικὴν πίεσιν, διὰ νὰ γίνῃ ἡ ἐξέτασίς των πλέον κατανοητή, θὰ ἐξετασθῇ πρῶτον ἡ κατανομὴ τῆς ἀτμοσφαιρικῆς πιέσεως ἐπὶ τῆς Γῆς.

Κατανομὴ ἀτμοσφαιρικῆς πιέσεως

Οἱ ἄνεμοι ὀφείλονται εἰς διαφορὰς ἀτμοσφαιρικῶν πιέσεων. Ἐπομένως τὰ κύρια αἴτια δημιουργίας ἀνέμων εἶναι αἱ βαρομετρικαὶ διαφοραί, αἱ ὁποῖαι παρατηροῦνται εἰς διαφόρους τόπους. Ὡς ἐκ τούτου, προτοῦ ἐξετασθῇ οἱονδήποτε σύστημα ἀνέμων ἐπιβάλλεται ἡ ἐξέτασις τῆς κατανομῆς τῆς ἀτμοσφαιρικῆς πιέσεως ἐπὶ τῆς Γῆς, ἔστω καὶ εἰς γενικὰς γραμμάς.

Εἰς τὴν περιοχὴν τοῦ Ἰσημερινοῦ (περὶ τοὺς 5° N καὶ Β), λόγῳ τῆς ἐντατικῆς ἡλιακῆς ἀκτινοβολίας, ἐπικρατεῖ ὑψηλὴ θερμοκρασία. Συνεπείᾳ τῆς ὑψηλῆς θερμοκρασίας ὁ Ἰσημερινὸς ἀὴρ θερμαίνεται, καθίσταται ἐλαφρότερος καὶ συνε-

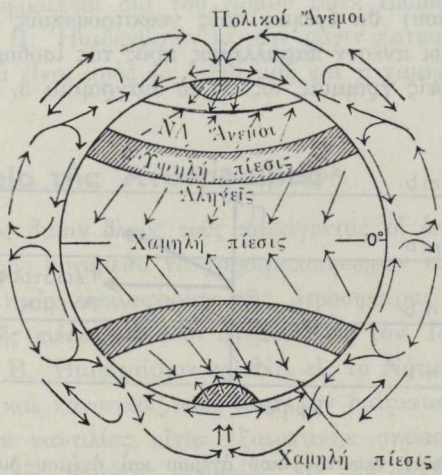
πῶς ἀνέρχεται. Δημιουργεῖται τοιουτοτρόπως τὸ θερμικὸν ἀνοδικὸν ρεῦμα τοῦ Ἰσημερινοῦ καὶ ἐπακόλουθον αὐτοῦ εἶναι ὁ σχηματισμὸς χαμηλῆς ἀτμοσφαιρικῆς πιέσεως εἰς τὰς Ἰσημερινὰς περιοχάς. Ἡ ζώνη αὐτὴ χαρακτηρίζεται ἀπὸ νηνεμίας ἢ πολὺ ἀσθενεῖς ἀνέμους καὶ εἶναι γνωστὴ ὡς «ζώνη ἰσημερινῶν νηνεμιῶν» ἢ «Ἰσημερινὴ ζώνη ἀπνοίας» (Doldrums). Περιοδικαὶ καταιγίδες δὲν ἀποτελοῦν ἀσύνηθες φαινόμενον.

Ὁ ἀνερχόμενος ἀὴρ εἰς τὴν περιοχὴν τοῦ Ἰσημερινοῦ διαστέλλεται. Ὡς ἀποτέλεσμα τῆς τοιαύτης διαστολῆς εἶναι ἡ πτῶσις τῆς θερμοκρασίας του κατὰ 5½° Φάρεναϊτ ἀνὰ 1.000 πόδια ὕψος (Lake, 1955). Συνεπείᾳ τῆς τοιαύτης πτώσεως τῆς θερμοκρασίας, εἰς ὡρισμένον ὕψος, συνήθως πλησίον τῆς τροποπαύσεως, ὁ ἀνερχόμενος ἀὴρ ἀναγκάζεται νὰ ἀποκλίνῃ πρὸς τοὺς πόλους. Πέριξ ὅμως τοῦ Γεωγραφικοῦ Πλάτους 30°, Β καὶ Ν τοῦ Ἰσημερινοῦ, εἶναι ἤδη ἀρκετὰ ψυχρότερος τοῦ ἀέρος τῆς περιοχῆς καὶ δημιουργεῖται οὕτω ἓν καθοδικὸν ρεῦμα ἀέρος. Ἡ συσσώρευσις τοῦ κατερχομένου ἀέρος προκαλεῖ τὰς ὑψηλὰς ὑποτροπικὰς πιέσεις, αἱ ὁποῖαι χαρακτηρίζονται καὶ πάλιν ὑπὸ ἀσθενῶν ἀνέμων ἢ νηνεμιῶν. Ἕνεκα τῆς καθοδικῆς κινήσεώς του ὁ ἀὴρ θερμαίνεται ἀδιαβατικῶς καὶ ὡς ἐκ τούτου ἀπομακρύνεται τοῦ σημείου κόρου (saturation point). Συνεπῶς, αἱ περιοχαὶ αὗται, κυρίως δὲ αἱ εὑρισκόμεναι εἰς τὰ δυτικὰ τῶν ἠπείρων, χαρακτηρίζονται ὑπὸ αἰθρίου καιροῦ καὶ ξηρασίας καὶ ὡς ἐκ τούτου εἰς αὐτὰ τὰ Γεωγραφικὰ Πλάτη ἀπαντῶνται μερικαὶ ἀπὸ τὰς σπουδαιοτέρας ἐρήμους.

Εἰς τὴν περιοχὴν τῶν Πόλων λόγῳ τοῦ ψύχους, ἐπικρατοῦν ζῶναι ὑψηλῆς πιέσεως ἐνῶ πέριξ τῶν Γεωγραφικῶν Πλατῶν 60°, εἰς ἀμφότερα τὰ Ἡμισφαίρια, ἐπικρατοῦν ζῶναι χαμηλῆς ἀτμοσφαιρικῆς πιέσεως. Αἱ τελευταῖαι ζῶναι χαμηλῆς πιέσεως ὀφείλονται εἰς τὴν σύγκλισιν τῶν ΝΔ ἀνέμων (εἶναι περισσότερον γνωστοὶ ὡς Δυτικοὶ ἐπικρατοῦντες ἄνεμοι — Prevailing Westerlies) τῆς εὐκράτου ζώνης μετὰ τῶν πολικῶν ἀνέμων. Ἡ σύγκλισις αὕτη προκαλεῖ ἀνοδικὴν κίνησιν (ἀκριβέστερον δίνας ἢ στροβίλους), μὲ ἀποτέλεσμα τὴν δημιουργίαν χαμηλῆς ἀτμοσφαιρικῆς πιέσεως.

Ἡ κατανομὴ τῆς ἀτμοσφαιρικῆς πιέσεως παριστάνεται σχηματικῶς διὰ τοῦ διαγράμματος 2. Εἰς αὐτὸ τὸ διάγραμμα προϋποτίθεται ὅτι ἡ ἐπιφάνεια τῆς Γῆς εἶναι ὁμοιογενὴς, δηλαδὴ καλύπτεται ἐξ ὁλοκλήρου ὑπὸ ξηρᾶς ἢ θαλάσσης. Ὁ λόγος διὰ τὸν ὁποῖον τίθεται αὐτὴ ἡ προϋπόθεσις ὀφείλεται εἰς τὸ γεγονὸς ὅτι ἡ κατανομὴ τῆς ξηρᾶς καὶ τῆς θαλάσσης ἐπιδρᾷ ἐπὶ τῆς κατανομῆς τῆς ἀτμοσφαιρικῆς πιέσεως καὶ ἐπιφέρει ὡρισμένας τροποποιήσεις. Αὐτὰς τὰς τροποποιήσεις θὰ τὰς ἐξετάσωμεν ἀργότερον. Ἐτονίσαμεν προηγουμένως ὅτι τὰ κύρια αἴτια τῶν ἀνέμων εἶναι αἱ βαρομετρικαὶ διαφοραὶ αἱ ὁποῖαι παρατηροῦνται εἰς διαφόρους τόπους· γενικῶς οἱ ἄνεμοι πνέουν ἀπὸ ζώνας ὑψηλῆς πιέσεως πρὸς ζώνας χαμηλῆς πιέσεως. Ἡ διεύθυνσίς των ὅμως τροποποιεῖται ὑπὸ ὡρισμένων ἄλλων παραγόντων. Ἐὰν ἐλαμβάνομεν ὑπ' ὄψιν μόνον τὴν κατανομὴν τῆς ἀτμοσφαιρικῆς πιέσεως, ὅπως δεικνύεται εἰς τὸ διάγραμμα 2, θὰ ἐπροκαλοῦντο ἄνεμοι οἱ

ὁποῖοι θὰ ἔπνεον ἀπὸ τὰς δύο Πολικὰς ζώνας ὑψηλῆς πιέσεως πρὸς τὰς δύο Ὑποπολικὰς ζώνας χαμηλῆς πιέσεως. Οἱ ἄνεμοι οὗτοι θὰ ἦσαν Βόρειοι εἰς τὸ Β. Ἡμισφαίριον καὶ Νότιοι εἰς τὸ Ν. Ἡμισφαίριον. Ἐπιπροσθέτως, ἀπὸ τὰς δύο ὑποτροπικὰς ζώνας ὑψηλῆς πιέσεως θὰ ἔπνεον ἄνεμοι πρὸς τὴν Ἰσημερινὴν ζώνην χαμηλῆς πιέσεως καὶ πρὸς τὰς δύο ὑποπολικὰς ζώνας χαμηλῆς πιέσεως. Οἱ μὲν



Διάγραμμα 2: Κατανομὴ τῆς Ἀτμοσφαιρικῆς Πιέσεως καὶ τῶν ἐξαρτωμένων ὑπὸ αὐτῆς συστημάτων ἀνέμου.

πνέοντες πρὸς τὸν Ἰσημερινὸν ἄνεμοι θὰ ἦσαν Βόρειοι εἰς τὸ Β. Ἡμισφαίριον καὶ Νότιοι εἰς τὸ Ν. Ἡμισφαίριον, ἐνῷ οἱ πνέοντες πρὸς τὰς δύο ὑποπολικὰς ζώνας ἄνεμοι θὰ εἶχον ἐντελῶς ἀντίθετον κατεύθυνσιν. Ὅμως, ἀφ' ἧς στιγμῆς ἀρχίσῃ ἡ κίνησις τῶν ἀνέμων ἐπὶ τῆς ἐπιφανείας τῆς Γῆς ἡ διεύθυνσίς των τροποποιεῖται ὑπὸ ὡρισμένων παραγόντων.

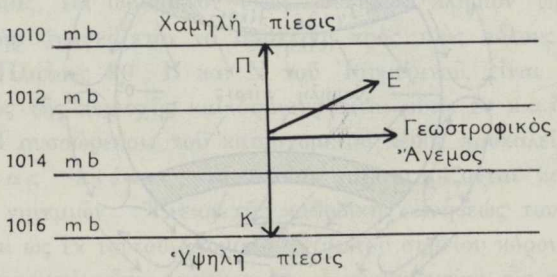
«Δύναμις Κοριόλις»

Ἐξ αὐτῶν τῶν παραγόντων σπουδαιότερος εἶναι ἡ περιστροφὴ τῆς Γῆς πέριξ τοῦ ἄξονός της, ἡ ὁποία προκαλεῖ τὴν λεγομένην «δύναμιν ἐκτροπῆς ἢ ἀποκλίσεως», περισσότερον γνωστὴν ὡς «δύναμιν Κοριόλις» (Coriolis force), ὀνομασθεῖσαν οὕτω ἀπὸ τὸ γνωστὸν θεώρημα τοῦ Γάλλου Μαθηματικοῦ Coriolis (1792—1843). Ἡ δύναμις αὐτὴ ἐκτρέπει ὅλα τὰ ἐν κινήσει εὑρισκόμενα σώματα πρὸς τὰ δεξιὰ εἰς τὸ Β. Ἡμισφαίριον καὶ πρὸς τὰ ἀριστερὰ εἰς τὸ Νότιον Ἡμισφαίριον. Ἡ ἐπιτάχυνσις τῆς ἐκτροπῆς ταύτης ἐπὶ μονάδος μάζης δίδεται διὰ τοῦ τύπου:

$$D = 2 V \rho \omega \text{ ἡμ. } \varphi.$$

ὅπου, εἰς τὴν περίπτωσιν τῶν ἀνέμων, V = ταχύτης ἀνέμου, ρ = πυκνότης ἀνέμου, ω= γωνιακὴ ταχύτης περιστροφῆς τῆς γῆς πέριξ τοῦ ἄξονός της, ἡ ὁποία ἰσοῦται

μὲ 729×10^{-7} ἀκτίνια καὶ φ = Γεωγραφικὸν Πλάτος. Διὰ τοῦ τύπου αὐτοῦ βλέπομεν ὅτι εἰς τὸν Ἰσημερινὸν ἡ «δύναμις ἐκτροπῆς» εἶναι μηδὲν διότι φ = 0° καὶ ἡμ. φ = 0, ἐνῷ εἰς τοὺς πόλους ἡ «δύναμις ἐκτροπῆς» ἔχει τὴν μεγίστην τιμὴν διότι φ = 90° καὶ ἐπομένως ἡμ. φ = 1. Οὕτω, ἐὰν δὲν λάβωμεν ὑπ' ὄψιν τὴν τριβὴν τὴν ὁποίαν ὑφίστανται οἱ ἄνεμοι ὅταν ἔρχωνται εἰς ἐπαφὴν μὲ τὴν ἐπιφάνειαν τῆς ξηρᾶς ἢ τῆς θαλάσσης (τοιαύτη κατάστασις ἐπικρατεῖ εἰς ὕψος ἄνω τῶν 2500 ποδῶν περίπου) θὰ ἔχωμεν τοὺς γεωστροφικοὺς ἀνέμους (geostrophic winds). Οἱ ἄνεμοι οὗτοι πνέουν παραλλήλως πρὸς τὰς ἰσοβαρεῖς γραμμάς. Συνεπῶς, ἐὰν ἔχωμεν ἰσοβαρεῖς γραμμάς, ὡς εἰς τὸ διάγραμμα 3, λόγῳ τῆς ἐπενεργείας



Διάγραμμα 3: Σχηματισμὸς γεωστροφικοῦ ἀνέμου καὶ ἀνέμου διὰ τὸν σχηματισμὸν τοῦ ὁποίου λαμβάνεται ὑπ' ὄψιν ἡ βαροβαθμίς, ἡ «δύναμις Κοριόλις» καὶ ἡ τριβὴ (Ε).

τῆς δυνάμεως ἡ ὁποία προκαλεῖται ἀπὸ τὴν διαφορὰν ἀτμοσφαιρικῆς πιέσεως (δύναμις βαροβαθμίδος) προκαλεῖται ἄνεμος ὁ ὁποῖος πνέει καθέτως ἐπὶ τῶν ἰσοβαρῶν γραμμῶν, πρὸς τὴν περιοχὴν χαμηλῆς πιέσεως (Π ἐπὶ τοῦ διαγράμματος 3). Ἀφ' ἧς στιγμῆς ὅμως προκληθῇ ὁ ἄνεμος ἔρχεται ὑπὸ τὴν ἐπίδρασιν τῆς «δυνάμεως Κοριόλις», ἡ ὁποία ἐκτρέπει τὸν ἄνεμον πρὸς τὰ δεξιὰ (δεδομένου ὅτι εὑρισκόμεθα εἰς τὸ Β. Ἡμισφαίριον). Σὺν τῷ χρόνῳ, ἡ «δύναμις Κοριόλις», λόγῳ τῆς συνεχιζομένης ἐπιταχύνσεως, ἀντισταθμίζει τὴν δύναμιν τῆς βαροβαθμίδος καὶ τοιουτοτρόπως προκαλεῖται ἰσορροπία μεταξὺ τῶν δύο δυνάμεων. Ὅταν ἐπιτευχθῇ τοιαύτη ἰσορροπία ὁ ἄνεμος πλέον πνέει εἰς εὐθεῖαν γραμμὴν ἄνευ ἐκτροπῆς καί, ὡς δεικνύεται εἰς τὸ διάγραμμα 3, εἶναι παράλληλος πρὸς τὰς ἰσοβαρεῖς γραμμάς. Ὁ τοιοῦτος ἄνεμος καλεῖται γεωστροφικὸς καὶ ἀπαντᾶται, ὡς ἤδη ἀνεφέρθη, εἰς ὕψη ἄνω τῶν 2500 ποδῶν.

Τριβὴ

Εἰς τὰ στρώματα ὅμως τοῦ ἀέρος τὰ ὁποῖα εὑρίσκονται πλησίον τῆς ἐπιφανείας τῆς Γῆς ὑπεισέρχεται μία ἄλλη ἐπίδρασις, ἡ τριβή, ἡ ὁποία ἔχει ὡς ἀποτέλεσμα τὴν ἐλάττωσιν τῆς ταχύτητος τοῦ ἀνέμου. Ἡ τοιαύτη ὅμως ἐλάττωσις συντελεῖ καὶ εἰς τὴν ἐλάττωσιν τῆς «δυνάμεως Κοριόλις», ἐνῷ ἡ βαροβαθμικὴ δύναμις παραμένει ἡ ἰδία. Ἐπομένως, ἀποτέλεσμα τῆς τριβῆς εἶναι ἡ ἀπόκλισις τοῦ ἀνέμου πρὸς τὰς χαμηλὰς πιέσεις καὶ τοιουτοτρόπως ἀντὶ ὁ ἄνεμος νὰ πνέῃ πα-

ραλλήλως πρὸς τὰς ἰσοβαρεῖς γραμμὰς σχηματίζει γωνίαν μὲ αὐτάς. Ὑπεράνω τῶν ὠκεανῶν καὶ θαλασσῶν, ὅπου ἡ τριβὴ εἶναι ἀσθενής, ἡ γωνία εἶναι ἴση μὲ 10°—20°, ἐνῶ ὑπεράνω τῆς ξηρᾶς, ὅπου ἡ τριβὴ εἶναι μεγαλυτέρα, ἡ γωνία ἀνέρχεται εἰς 45° περίπου. Συνεπῶς λαμβάνοντας ὑπ' ὄψιν, πλὴν τῆς «δυνάμεως Κοριόλις», καὶ τὴν τριβήν, ὁ ἄνεμος πλησίον τῆς ἐπιφανείας τῆς γῆς θὰ ἔχῃ διεύθυνσιν Ε ἐπὶ τοῦ διαγράμματος 3. Γενικῶς ἡ σχέσις τοῦ ἀνέμου μετὰ τῆς Ἀτμοσφαιρικῆς Πιέσεως ἐκφράζεται διὰ τοῦ Νόμου Buys Ballot, ὁ ὁποῖος ἀναφέρει: «Ἐὰν ἱστάμεθα εἰς τὸ Β. Ἡμισφαίριον μὲ τὴν ράχιν ἐστραμμένην πρὸς τὸν ἄνεμον, ἡ ὑψηλὴ πίεσις θὰ εἶναι πρὸς τὰ δεξιά μας καὶ ἡ χαμηλὴ πίεσις πρὸς τὰ ἀριστερά μας».

Γενικὴ κυκλοφορία τῆς Ἀτμοσφαίρας

Ἔχοντας τώρα ὡς βάσιν ὅλους τοὺς παράγοντας οἱ ὁποῖοι ἐπιδροῦν ἐπὶ τῆς διευθύνσεως τῶν ἀνέμων, δυνάμεθα νὰ χρησιμοποιήσωμεν τὸ διάγραμμα 2 διὰ νὰ παραστήσωμεν τὴν γενικὴν κυκλοφορίαν τῆς ἀτμοσφαίρας. Ἐκ τῶν δύο Ὑποτροπικῶν ζωνῶν ὑψηλῆς πιέσεως πνέουν ἄνεμοι πρὸς τὸν Ἰσημερινόν. Οἱ ἄνεμοι οὗτοι εἶναι ΒΑ εἰς τὸν Β. Ἡμισφαίριον καὶ ΝΑ εἰς τὸ Νότιον καὶ καλοῦνται Ἀληγεῖς. Εἶναι σταθεροὶ καὶ κανονικοὶ καθ' ὅλην τὴν διάρκειαν τοῦ ἔτους καὶ κατὰ ἐποχὴν τῆς ἱστιοφόρου ναυτιλίας εἶχον ἐξαιρετικὴν σημασίαν διὰ τὰς διεθνεῖς μεταφοράς. Συνεπείᾳ τῆς τοιαύτης σημασίας, εἰς τὴν ἀγγλικὴν εἶναι γνωστοὶ ὡς "Trade Winds", δηλαδὴ «Ἄνεμοι τοῦ Ἐμπορίου». Οἱ Ἀληγεῖς εἰς τὸ σημεῖον προσεγγίσεως τοῦ Ἰσημερινοῦ κάμπτονται πρὸς τὰ ἄνω, ἀφήνοντες μεταξὺ αὐτῶν μίαν «ζώνην νηνεμιῶν». Εἰς τὰ ἀνώτερα στρώματα τῆς τροποσφαίρας πνέουν ἀντίθετα πρὸς τοὺς Ἀληγεῖς ρεύματα καὶ εἶναι γνωστὰ ὡς Ἀνταληγεῖς. Ἑπομένως, οἱ Ἀληγεῖς μετὰ τῶν Ἀνταληγῶν σχηματίζουν ἓν κύκλωμα τὸ ὁποῖον εἶναι γνωστὸν ὡς κύκλωμα τοῦ «Ἰσημερινοῦ δακτυλίου». Ὁμοίως, ἐκ τῶν Ὑποτροπικῶν ζωνῶν ὑψηλῆς πιέσεως πνέουν πρὸς τὰς δύο Ὑποπολικὰς ζώνας χαμηλῆς πιέσεως ἄνεμοι οἱ ὁποῖοι εἶναι εἰς μὲν τὸ Β. Ἡμισφαίριον ΝΔ εἰς δὲ τὸ Νότιον ΒΔ. Ἐν ἀντιθέσει πρὸς τοὺς Ἀληγεῖς οἱ ΝΔ καὶ ΒΔ ἄνεμοι δὲν εἶναι σταθεροί, εἶναι ὅμως πολὺ συχνοὶ καὶ ὡς ἐκ τούτου καλοῦνται συνήθως καὶ Δυτικοὶ ἐπικρατοῦντες ἄνεμοι (Prevailing Westerlies). Μερικοὶ Γεωγράφοι ὀνομάζουν αὐτοὺς «Ἀνταληγεῖς» διότι ἔχουν ἀντίθετον ἀπὸ τοὺς Ἀληγεῖς κατεύθυνσιν. Ὅπως εἴδομεν ὅμως ἀνωτέρω οἱ «Ἀνταληγεῖς» ἀποτελοῦν ρεύματα ἀέρος, φορᾶς ἀντιθέτου ἐκείνης τῶν Ἀληγῶν, πνέοντες ὑπεράνω αὐτῶν. Εἰς τὸ Ν. Ἡμισφαίριον, ἐπειδὴ τὰ χερσαῖα τμήματα εἶναι μικρά, προβάλλεται μικρὰ μόνον ἀντίστασις καὶ οἱ Δυτικοὶ ἐπικρατοῦντες ἄνεμοι εἶναι τόσον σφοδροὶ πέριξ τοῦ Γεωγραφικοῦ Πλάτους 40° ὥστε νὰ ὀνομάζωνται «οἱ βρυχώμενοι 40 — Roaring Fourties». Ὑπεράνω τῶν Δυτικῶν ἐπικρατούντων ἀνέμων πνέουν ἄνεμοι ἀντιθέτου φορᾶς καὶ σχηματίζεται οὕτω ὁ «εὔκρατος δακτύλιος».

Τέλος, ἀπὸ τὰς δύο Πολικὰς ζώνας ὑψηλῆς πιέσεως πνέουν οἱ Πολικοὶ ἄνεμοι, οἱ ὁποῖοι εἶναι ΒΑ εἰς τὸ Β. Ἡμισμαίριον καὶ ΝΑ εἰς τὸ Νότιον. Ὑπεράνω αὐ-

τῶν πνέει ρεῦμα ἀέρος ἀντιθέτου φορᾶς καὶ σχηματίζεται οὕτω ὁ «Πολικὸς δακτύλιος». Εἰς τὸ σημεῖον ὅπου οἱ Δυτικοὶ ἐπικρατοῦντες ἄνεμοι συναντοῦν τοὺς Πολικοὺς Ἀνέμους δημιουργεῖται τὸ «Πολικὸν μέτωπον».

Ἀπὸ αὐτὴν τὴν γενικὴν περιγραφὴν τῆς κυκλοφορίας τῆς Ἀτμοσφαίρας δύνανται νὰ γεννηθοῦν ὡρισμένα ἐρωτήματα τύπου «ἐὰν πρῶτα ἔγινε τὸ αὐγὸ ἢ ἡ κότα». Ἓν ἀπὸ αὐτὰ τὰ ἐρωτήματα εἶναι: «Μία ὡρισμένη κατανομὴ τῆς Ἀτμοσφαιρικῆς Πιέσεως δημιουργεῖ ἓν σύστημα ἀνέμων ἢ μήπως ἓν ὡρισμένον σύστημα ἀνέμων προκαλεῖ μίαν ἀνάλογον κατανομὴν τῆς πιέσεως»; Καὶ αὐτὸ διὰ νὰ δείξωμεν πόσον πολύπλοκον εἶναι τὸ μάθημα τῆς Γεωγραφίας. Εἰς τὴν παροῦσαν μελέτην τὸ θέμα προσηγγίσθη καὶ ὡς «αὐγὸ» καὶ ὡς «κότα». Διὰ τὴν ἐξήγησιν τῶν Ὑποπολικῶν χαμηλῶν ζωνῶν πιέσεως ἐχρησιμοποιήθη ἡ σύγκλισις τῶν Δυτικῶν Ἐπικρατούντων Ἀνέμων μετὰ τῶν Πολικῶν, ἐνῶ διὰ τὴν ἐξήγησιν τῶς Ἀληγῶν καὶ ἄλλων τύπων Ἀνέμων ἐχρησιμοποιήθη μία ὡρισμένη κατανομὴ ἀτμοσφαιρικῆς πιέσεως.

Τροποποιήσεις

Δέον νὰ τονισθῇ μετ' ἐμφάσεως, ὅτι τὸ σύστημα ἀνέμων καὶ ἡ κατανομὴ τῆς ἀτμοσφαιρικῆς πιέσεως, ὡς ἔχουν περιγραφῇ, ἀντιπροσωπεύουν μίαν ἰδανικὴν κατάστασιν. Ἡ ἀνομοιογένεια τῆς ἐπιφανείας τῆς γῆς (ξηρὰ καὶ θάλασσα) καὶ ἡ ἀνομοιομορφία τῆς ἀναγλύφου ὄψεως αὐτῆς τροποποιοῦν τὰ περιγραφέντα συστήματα ἀνέμων καὶ πιέσεως. Ἐπὶ παραδείγματι, ἡ ξηρὰ καὶ ἡ θάλασσα θερμαίνονται ἀνίσως μὲ ἀποτέλεσμα αἱ Ὕπειροι νὰ καθίστανται κέντρα χαμηλῆς πιέσεως τὴν καλοκαιρινὴν περίοδον καὶ ὑψηλῆς πιέσεως κατὰ τὴν χειμερινήν, ἐνῷ εἰς τοὺς ὠκεανοὺς νὰ συμβαίνῃ τὸ ἀντίθετον. Ἑπομένως ἡ ἀνομοιογένεια τῆς ἐπιφανείας τῆς γῆς συντελεῖ ὥστε αἱ ζῶναι πιέσεως, τὰς ὁποίας ἀνεφέραμεν προηγουμένως, νὰ μὴν εἶναι συνεχεῖς, ἀλλὰ διακοπτόμεναι. Ἐπιπροσθέτως, ἡ τάσις τῶν Ἠπείρων νὰ μετατρέπωνται εἰς ζώνας χαμηλῆς πιέσεως τὸ καλοκαίρι καὶ ὑψηλῆς τὸν χειμῶνα συντελεῖ εἰς τὴν δημιουργίαν τῶν ἐποχιακῶν ἀνέμων, ὡς οἱ Μουσσῶνες. Ἡ σημασία τῶν τελευταίων ὡς κλιματολογικοῦ στοιχείου εἶναι γνωστὴ εἰς ὅσους ἔχουν καὶ τὴν ἐλαχίστην γνῶσιν Γεωγραφίας ὥστε νὰ μὴ χρειασθῇ νὰ ἐπεκταθῶμεν. Ἡ ἀνομοιομορφία τῆς ἀναγλύφου ὄψεως τῆς Γῆς δημιουργεῖ εἰδικὰς τοπογραφικὰς συνθήκας, αἱ ὁποῖαι δύνανται νὰ συντελέσουν εἰς τὸν σχηματισμὸν τοπικῶν ἀνέμων (Φέν, Βαρδάρης, Μιστράλ, κ.λ.π.).

Τέλος, λόγῳ τοῦ κεκλιμένου τοῦ ἄξονος τῆς Γῆς καὶ τῆς περιφορᾶς αὐτῆς περὶ τὸν Ἥλιον, ὁ Ἥλιος ρίχνει καθέτως τὰς ἀκτίνας του ὑπεράνω τοῦ Τροπικοῦ τοῦ Καρκίνου (Θερινὸν Ἡλιοστάσιον) τὴν καλοκαιρινὴν περίοδον καὶ ὑπεράνω τοῦ τροπικοῦ τοῦ Αἰγόκερω τὴν χειμερινὴν περίοδον (Χειμερινὸν Ἡλιοστάσιον). Ὅθεν, τὸ καλοκαίρι, ὅτε ὁ Ἥλιος εὑρίσκεται ὑπεράνω τοῦ Β. Ἡμισφαιρίου, αἱ ζῶναι πιέσεως καὶ τὸ γενικὸν σύστημα ἀνέμων μετατοπίζονται 5—6° πρὸς Βορρᾶν, ἐνῷ τὸν χειμῶνα, ὅτε ὁ Ἥλιος εἶναι ὑπεράνω τοῦ Νοτίου Ἡμισφαιρίου, ἡ μετατόπισις εἶναι πρὸς Νότον.

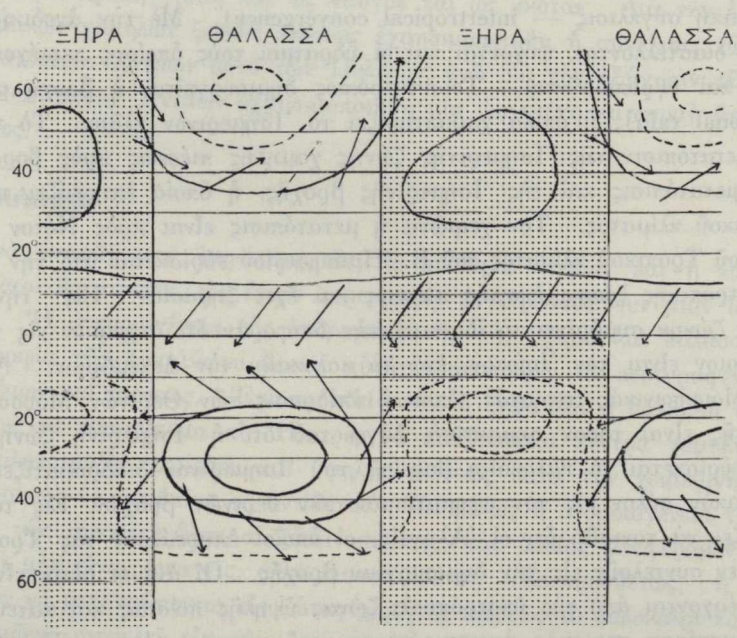
Οἱ ἄνεμοι ὡς στοιχεῖον Κλιματολογίας

Ἐτονίσθη εἰς τὴν ἀρχὴν τῆς παρούσης μελέτης ὅτι οἱ ἄνεμοι καὶ γενικῶς ἡ κυκλοφορία τῆς ἀτμοσφαίρας ἐνέχουν μεγάλην σημασίαν τόσον ἀπὸ μετεωρολογικῆς ὅσον καὶ κλιματολογικῆς πλευρᾶς. Ἂς ἐξετάσωμεν τώρα μερικὰς ἀπὸ τὰς ἐπιδράσεις τῶν ἀνέμων ἐπὶ τῆς κλιματολογίας.

Καθὼς εἴδομεν, εἰς τὴν Ἰσημερινὴν ζώνην παρατηρεῖται ἓν ἀνοδικὸν ρεῦμα ἀέρος, τὸ ὁποῖον ἀπεδώσαμεν εἰς τὴν ὑπερβολικὴν παρὰ τὸ ἔδαφος θέρμανσιν τῶν ἀερίων μαζῶν, δύναται ὅμως νὰ προκληθῇ καὶ ἀπὸ τὴν σύγκλισιν τῶν Ἀληγῶν (ἐνδοτροπικὴ σύγκλισις — intertropical convergence). Μὲ τὴν ἀνοδικὴν κίνησιν οἱ ἄνεμοι διαστέλλονται, ψύχονται καὶ οἱ ὑδρατμοὶ τοὺς ὁποίους περιέχουν συμπυκνοῦνται καὶ ὑγροποιοῦνται. Τοιουτοτρόπως δημιουργεῖται ἡ βροχὴ μεταφορᾶς (convectional rain), ἡ ὁποία χαρακτηρίζει τὸ Ἰσημερινὸν κλῖμα. Τὸ καλοκαίρι, μὲ τὴν μετατόπισιν τῆς Ἰσημερινῆς ζώνης χαμηλῆς πιέσεως πρὸς βορρᾶν, προκαλεῖται μετατόπισις καὶ τῆς Ἰσημερινῆς βροχῆς, ἡ ὁποία ἐπηρεάζει τὴν ζώνην τοῦ τροπικοῦ κλίματος. Τὸν χειμῶνα ἡ μετατόπισις εἶναι πρὸς Νότον καὶ οὕτω ἡ ζώνη τοῦ Τροπικοῦ κλίματος τοῦ Β. Ἡμισφαιρίου εὑρίσκεται ὑπὸ τὴν ἐπίδρασιν τῆς Ὑποτροπικῆς ζώνης ὑψηλῆς πιέσεως καὶ ἔχει ξηρασίαν. Εἰς τὴν Νότιον Τροπικὴν ζώνην συμβαίνει τὸ ἴδιον μὲ τὴν διαφορὰν ὅτι ὁ χειμὼν εἰς τὸ Νότιον Ἡμισφαίριον εἶναι τὸν Ἰούνιον, ἐνῷ τὸ καλοκαίρι τὸν Δεκέμβριον. Ἀκόμη καὶ εἰς τὰς Μουσσωνικὰς περιοχάς, ὅπου ἡ ἐπίδρασις τῶν Θερινῶν Μουσσώνων ἐπὶ τῆς βροχῆς εἶναι τόσον σημαντική, λόγῳ τοῦ ὅτι ἡ Ἰσημερινὴ ζώνη χαμηλῆς πιέσεως εὑρίσκεται τὸ καλοκαίρι βορείως τοῦ Ἰσημερινοῦ διαδραματίζει ἓν συμπληρωματικὸν ρόλον εἰς τὸν σχηματισμὸν τῶν θερινῶν βροχῶν. Εἰς τὸ σημεῖον αὐτὸ ἀξίζει νὰ τονισθῇ ὅτι οἱ Ἀληγεῖς, οἱ ὁποῖοι ἐπηρεάζουν τὰς Τροπικὰς περιοχάς, δὲν συντελοῦν εἰς τὴν δημιουργίαν βροχῆς. Οἱ ἄνεμοι οὗτοι εἶναι ξηροί, διότι προέρχονται ἀπὸ τὰς ὑποτροπικὰς ζώνας ὑψηλῆς πιέσεως καὶ κατευθυνόμενοι πρὸς θερμοτέρας περιοχὰς ἀπομακρύνονται τοῦ σημείου κόρου. Ἐπομένως, ὑπὸ τὴν πνοὴν τῶν Ἀληγῶν ὁ καιρὸς εἶναι αἴθριος.

Εἰς τὰ δυτικὰ τμήματα τῶν Ἠπείρων πέριξ τῶν Γεωγραφικῶν Πλατῶν 20—30°, εἰς ἀμφότερα τὰ ἡμισφαίρια, εὑρίσκομεν πλείστας τῶν ἐρήμων λόγῳ τῶν καθοδικῶν κινήσεων τοῦ ἀνέμου. Οἱ καθοδικῶς κινούμενοι ἄνεμοι θερμαίνονται ἀδιαβατικῶς καὶ τοιουτοτρόπως ἀπομακρύνονται τοῦ σημείου κόρου καὶ κατὰ συνέπειαν εἰς τὰς ἐρήμους ἐπικρατεῖ ξηρασία. Τὰ ἀνατολικὰ τμήματα τῶν Ἠπείρων, εἰς τὰ αὐτὰ Γεωγραφικὰ πλάτη, ἐπηρεάζονται ὑπὸ τῶν Μουσσώνων καὶ δέχονται θερινὰς βροχάς. Εἰς τὰ δυτικὰ τμήματα τῶν Ἠπείρων, πέριξ τῶν Γεωγραφικῶν Πλατῶν 30—40°, εὑρίσκονται τὰ Μεσογειακὰ κλίματα. Τὸ διάγραμμα 4 δεικνύει ὅτι ἡ τοιαύτη κατανομὴ τῶν Μεσογειακῶν κλιμάτων ὀφείλεται εἰς τὴν κατανομὴν τῆς ἀτμοσφαιρικῆς πιέσεως καὶ εἰς τὰ ἐξαρτώμενα ὑπ' αὐτῆς συστήματα ἀνέμων ὡς καὶ εἰς τὰς τροποποιήσεις τὰς ὁποίας ἐπιφέρει ἡ ἀνομοιογένεια τῆς ἐπιφανείας τῆς γῆς. Ἡ μελέτη αὐτοῦ τοῦ διαγράμματος δεικνύει ὅτι τὸν χειμῶνα αἱ δυτικαὶ ἀκταὶ τῆς ξηρᾶς, αἱ ἐκτεινόμεναι βορείως τοῦ Γεωγραφικοῦ Πλάτους 30°, εὑρί-

σκονται ὑπὸ τὴν ἐπίδρασιν τῶν Δυτικῶν ἐπικρατούντων ἀνέμων, οἱ ὁποῖοι πνέουν ἐκ τῆς θαλάσσης πρὸς τὴν ξηράν. Ἐπομένως τὴν χειμερινὴν περίοδον αἱ δυτικαὶ ἀκταὶ δέχονται βροχάς. Εἰς τὰς ἀνατολικὰς ἀκτὰς οἱ ἄνεμοι πνέουν ἐκ τῆς ξηρᾶς πρὸς τὴν θάλασσαν (βλέπε ἐποχιακοὶ ἄνεμοι). Ὡς ἐκ τούτου τὸν χειμῶνα αἱ ἀνατολικαὶ ἀκταὶ τῶν Ἠπείρων (30°—40°) εἶναι ξηραὶ καὶ δὲν δύνανται νὰ θεωρηθοῦν ὅτι ἔχουν Μεσογειακὸν κλῖμα. Τὸ καλοκαίρι αἱ περιοχαὶ μὲ Μεσογειακὸν κλῖμα χαρακτηρίζονται ὑπὸ ξηρασίας λόγῳ τοῦ ὅτι ἔρχονται ὑπὸ τὴν ἐπίδρασιν τῶν μετατοπιζομένων ὑποτροπικῶν ζωνῶν ὑψηλῆς πιέσεως. Τὸ γεγονὸς ὅτι τὰ



Διάγραμμα 4: Κατανομὴ τῆς πιέσεως καὶ τῶν ἀνέμων ὑπεράνω τῆς θαλάσσης καὶ τῆς ξηρᾶς κατὰ τὸν Ἰανουάριον. Αἱ διακοπτόμεναι ἰσοβαρεῖς δεικνύουν πίεσιν κάτω τῶν 30 ἰντσῶν. Αἱ Μεσογειακαὶ περιοχαὶ τοῦ Β. Ἡμισφαιρίου (Γ.Π. 30°—40°, εἰς τὰ δυτικὰ τμήματα τῆς ξηρᾶς) εἶναι ὑπὸ τὴν ἐπίδρασιν τῶν Ν.Δ. ἀνέμων (Πηγή: Lake, 1955).

δυτικὰ τμήματα τῶν χωρῶν μὲ Μεσογειακὸν κλῖμα δέχονται μεγαλυτέραν ὄμβρησιν ἀπὸ τὰ ἀνατολικὰ ἐξηγεῖται ἀπὸ τὴν ἐπίδρασιν τῶν Δυτικῶν ἀνέμων.

Οἱ Δυτικοὶ ἐπικρατοῦντες ἄνεμοι διαδραματίζουν σημαντικὸν ρόλον εἰς τὴν διαμόρφωσιν τοῦ Ὠκεανείου κλίματος. Οἱ ἄνεμοι αὐτοὶ πνέουν ὑπεράνω θερμῶν ὠκεανῶν ἀπὸ θερμὰ εἰς ψυχρότερα μέρη καὶ ὡς ἐκ τούτου εἶναι συνήθως κεκορεσμένοι ὑδρατμῶν. Τὸ μεγαλύτερον ποσοστὸν τῆς ὀμβρήσεως εἶναι «μετωπικῆς» προελεύσεως καὶ πίπτει ἰδίως τὸ Φθινόπωρον καὶ τὸν Χειμῶνα, ὅτε ἡ ἀνάπτυξις κυκλώνων εἶναι πλέον εὐνοϊκή. Τὸ γεγονὸς ὅτι τὰ δυτικὰ τμήματα τῶν χωρῶν μὲ ὠκεάνειον κλῖμα δέχονται μεγαλυτέραν ὄμβρησιν ἀπὸ τὰ ἀνατολικὰ καταδεικνύει τὴν ἐπίδρασιν τῶν Δυτικῶν ἐπικρατούντων ἀνέμων.

Ἐν κατακλεῖδι πρέπει νὰ τονισθῇ ὅτι τὰ «μέτωπα», ὡς εἶναι τὸ πολικόν, θερ-

μόν, ψυχρὸν κλπ., αἱ ὑφέσεις καὶ ἄλλα παρόμοια χαρακτηριστικὰ τῆς ἀτμοσφαίρας, τῶν ὁποίων ἡ ἐπίδρασις ἐπὶ τῆς κλιματολογίας μιᾶς περιοχῆς εἶναι τεραστία, ὀφείλονται κατὰ κύριον λόγον εἰς ἀερίους μάζας, μὲ διαφορετικὰς φυσικὰς ἰδιότητας, αἱ ὁποῖαι ἔρχονται εἰς ἐπαφὴν ἐξ ἀντιθέτων διευθύνσεων. Ἐπειδὴ ὅμως τὰ φαινόμενα αὐτὰ εἶναι τόσον πολύπλοκα δύνανται νὰ ἀποτελέσουν θέμα ξεχωριστῆς μελέτης. Ἐπὶ τοῦ παρόντος ἀρκούμεθα μόνον εἰς τὴν ἀναφοράν των.

Ἐκ τῆς μελέτης αὐτῆς καταδεικνύεται, νομίζομεν, ἡ μεγάλη σημασία τὴν ὁποίαν ἐνέχουν οἱ ἄνεμοι ὡς κλιματολογικὸν στοιχεῖον καὶ ἐπιπροσθέτως ἐπισημαίνονται μερικοὶ κίνδυνοι οἱ ὁποῖοι δύνανται νὰ προκύψουν ἀπὸ ἐλλείψεις ἢ ἀνακριβείας, αἱ ὁποῖαι παρουσιάζονται εἰς ὡρισμένα διδακτικὰ βιβλία Γεωγραφίας τὰ ὁποῖα χρησιμοποιοῦνται εἰς τὰ σχολεῖα μας. Καταδεικνύεται ἐπίσης ὅτι ἡ Γεωγραφία δὲν εἶναι ἁπλῆ ἀπομνημόνευσις πόλεων, ποταμῶν ἢ προϊόντων, ὅπως ἐσφαλμένως νομίζουν μερικοί, ἴσως λόγῳ ἀναμνήσεων ἐκ τοῦ μαθητικοῦ των παρελθόντος, ἀλλὰ μία πολύπλοκος ἐπιστήμη, ἡ ὁποία διὰ νὰ κατανοηθῇ ἀπαιτεῖ σκληρὰν καὶ ἐπίπονον ἐργασίαν.

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CONFLICT IN CYPRUS:

Some Views on the Situation by a Political Geographer.*

By

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The difficulty in differentiating the term **conflict** from such other terms as competition, rivalry, violence, tension, hostility, aggression etc., has made most researchers rather wary of continuing the search for a correct definition of conflict. Many academics now refuse to attempt any formal definition of conflict and offer instead a variety of propositions which, in total, constitute the means for identifying and characterizing conflict situations. Conflict has in fact becomes a rubber concept being stretched and moulded for the purpose at hand.

A review of the many propositions and definitions of conflict encourages the view that conflict is a generic term describing a continuum range of interaction between actors of various sorts. Such interaction is based, in essence, on situations in which absolute on relative gains for one actor covary directly with absolute on relative losses for another actor.

We might visualize a conflict scale analogous to a thermometer. At the hot end we would locate the most violent of wars. At the cool end we could perhaps find a game of chess.

But, I am a geographer — more particularly a political geographer — and in light of the scope of my training and of my focalized interest, how do I approach conflict!

First of all, I view the conflict **actors** as political communities rather than either as individuals, which may interest the psychologist, or as social groups, which may interest the sociologist. I am not of course denying the relevance of these other views, and indeed one cannot study the political community without refering to the individuals and groups who constitute that community.

Secondly, I view the **causes** of conflict in terms of the interaction between the **behavioural environments** of communities and the goals of those communities. In other words, I do not accept that conflict is caused by any attribute, per se, of a community's phenomenal environment. Con-

* Lecture and debate organised by Cyprus Geographical Association on 26th March 1971.

flicts are based on percepts and values which are subjective and thus vary among actors and through time.

Thirdly, I view the **results** of a given conflict in terms of the interaction between the **phenomenal environments** of communities and the actions of those communities to implement their goals.

It is important to recognize and understand the difference between the two types of environment which I have mentioned. The behavioural environment is a subjective view of one's situation and it is upon this view of reality that **decisions are made.** The phenomenal environment is one's situation as it objectively exists and it is within this environment that **decisions must be implemented.** It is this difference, between the situation as we think it is and the situation as it actually is, that often frustrates the attainment of our goals.

DEFINING THE COMMUNITIES IN THE CYPRUS CONFLICT

Before considering the political conflict in Cyprus we must first define which are the communities in conflict. Any observer of events in and about the island during the past decade might immediately reel off a list including Greeks and Turks in Cyprus, Greece, Turkey, the United Kingdom, the United States, the Soviet Union, N.A.T.O., the Central Treaty Organization, the United Nations etc.

However, I think it is fair to assume that the chief protagonists in the most recent act of the Cypriot drama have been the Greek Nation and the Turkish Nation.

I must here differentiate between **State** and **Nation.** The State is a political structure delimited by geographical boundaries with a recognized "de jure" status. The Nation, on the other hand, is a group of people who feel themselves linked by a common cultural heritage. The geographical boundaries of State and Nation rarely coincide although we speak of the Nation-State as the foundation block of our modern geopolitical system. In fact, attempts to make the geographical areas of States and Nations synonymous have been one of the leading causes of war in our lifetimes.

The Greek Nation includes the Greeks of Cyprus, as well as the Greeks of Greece. Similarily, the Turkish Nation includes Cypriot as well as mainland Turks.

But, at this point we are confronted with a vital nuance of the Cypriot conflict system. That nuance arises from the difference between a definition of communities who **are** protagonists in the conflict and a definition of communities who the protagonists themselves think **should** be involved in the conflict.

Should the conflict in Cyprus be left to the Greek and Turkish communities whose boundaries are circumscribed by the boundaries of the State of Cyprus! Should the conflict in Cyprus include the Greek and Turkish communities whose boundaries are defined in terms of the boundaries of the Greek and Turk Nations!

The community boundaries which are accepted as defining the protagonists will simultaneously delimit both the geographical area of conflict and the balance of power between the protagonists.

Greeks, invoking arguments of State sovereignty, would wish to define the protagonists as the Cpyriot communities. At this level, the Greeks are in a majority and any solution based on self-determination, and decided by a "one-man-one-vote" system, would support the Greek goal of ENOSIS and convesely prevent Turk goals which have variously been described as partition, or federation, or the creation of a State within a State.

Turks would argue that the community boundaries of the protagonists should coincide with National boundaries for at least two reasons. First, since the goal of ENOSIS automatically broadens the boundaries of the Greek protagonist to the level of the Greek Nation, 'ipso facto' the Turk protagonist must also be considered at the National level. Secondly, both Greece and Turkey actively intercede on behalf of Greeks and Turks in Cyprus with military, economic, cultural and political support. Therefore, a realistic appraisal by both sides must recognize this committment. If Turkey and Greece are included within the community boundaries of the protagonists, the Cyprus problem could then be viewed as only one of several connected conflict systems overlapping the Greek and Turk National boundaries. In this more comprehensive view, the Turk position, in terms of coercive power, is stronger than that of the Greeks. In this situation, the Turks might allow ENOSIS as part of a package deal involving a prior settlement of other disputes with Greece, including perhaps certain territorial concessions. Alternatively, Turkish strength might effectively deny ENOSIS altogether.

CAUSES OF THE CONFLICT

I stated, by way of introduction, that as a political geographer I viewed the **causes** of conflict in terms of the interaction between the behavioural environments of communities and their goals.

We know that two communities can view the same object or be subjected to the same environment and yet their perceptions of that object or their reactions to that environment can differ considerably. There are various explanations for this, which perhaps psychologists and sociologists are better prepared to deal with than geographers. Each community per-

ceives its phenomenal environment through spectacles whose lenses are tinted and focused so as to exclude and distort certain aspects of this environment. The behavioural environments which communities respond to therefore may differ to a greater or lesser degree even though such communities may, as in the case of Cyprus, cohabit the same earth space.

We may visualize a community's behavioural environment as being registered and stored both individually in the memories of the members of that community and collectively in the literature, vocal and visual recordings, and in a variety of art forms belonging to that community. In other words, an indication of a community's behavioural environment may be gained indirectly by observing aspects of a community's "culture". The behavioural environment is in fact a complex system of concepts of the phenomenal environment as it was. I say **was** rather than **is** because while the phenomenal environment changes, an image of that environment, once formed, is extraordinarily difficult to alter even in light of changed circumstances.

A community may also formulate a system of concepts which refers to the phenomenal environment as the community would wish it to develop in the future. It is this view of a community's environment which we refer to as community goals.

In the decision — making process, a community relates its behavioural environment to its goals to ascertain both the feasibility and relative priority of these goals. A decision can thus be taken to implement certain actions to achieve a particular goal. If that action does not achieve that goal, and the goal is nevertheless maintained as desirable, the decision — makers may attempt a different means to that some end. On the other hand, existing goals could be found to be so inconsistent with a changed environment that a completely different set of goals should be formulated. If such a reformulation of goals is not undertaken, community leaders will inevitably direct community resources to the achievement of unobtainable or inappropriate goals. In this situation, resources will be spent to no end but to weaken the community or to provoke conflicts which may jeopordize all other community goals.

If we study the communities within Cyprus we can note that they function within the context of behavioural environments which differ in several instances. That these differences are important is verified by the fact that the Greek and Turk communities in Cyprus have not integrated though living side by side for several hundred years. In fact, in recent years the differences in the behavioural environments of the Cypriot communities have so increased that the "we" versus "they" feeling has been accentuated between Greek-Cypriots and Turk-Cypriots. It is this antagonism, supported by dissimilar views of the Cypriot environment, that is a basic pre-condition

for conflict.

We may expect the behavioural environments of the Cypriot communities to differ for at least two main reasons.

Firstly, both communities have different sources of information about their situation. Each has its own newspapers, cinema films and radio stations. An almost negligible number of Cypriots read the newspapers of the other community. A larger number may listen to each others broadcasts, but this is more a matter of occassional curiosity and the reliability of news from this source is discredited by being labelled as "mere propaganda". The majority of Greek Cypriots learn about events in the Turkish Cypriot community from other Greek Cypriots and not from Turkish Cypriot sources. Similarily, the Turkish Cypriot knowledge of Greek Cypriot affairs comes principally from other Turk Cypriots.

Secondly, the Cypriot communities speak different languages. This language barrier hinders inter — communal communication and thereby limits the construction of a common behavioural environment. This barrier has become even more pronounced in recent years when conflict has kept the younger generation of both communities seperated and has thus discouraged Greek-Turk bilingualism.

We may ask in what specific ways do the Cypriot communities' views differ about their geopolitical situation.

During the Ottoman occupation of Cyprus, Turkish Cypriots viewed Cyprus as Turkish National territory principally because the island had been conquered by Turks. During the British occupation Turks, using analogous logic, viewed Cyprus as British territory. When it became probable after 1955 that Britain would leave Cyprus, Turkish Cypriot leaders voiced the view that all Cyprus was Turkish, but later that **all Cyprus was not Greek.** This latter view was based first on Turkish land ownership of part of Cyprus, and secondly on 'de facto' control of certain areas of Cyprus.

In contrast, Greek Cypriots have continued to view Cyprus as Greek National territory regardless of who ruled the island or of who owned the land. This ethnocentric view of space is buttressed by the fact that the majority of the island is owned and governed by Greek Cypriots. Greek Cypriots view the Turkish Cypriot community as the remanents of a former occupying power which had been supplanted first by Britain and secondly by a sovereign indigenous government. The Turkish Cypriot community was thus viewed, not as living within a definable Turkish space on Cyprus, but as a minority cohabiting Greek territory.

While different views of the same environment may be one precondition for conflict, perhaps a more critical precondition is that communities maintain mutually exclusive goals concerning the disposition of a common territory.

In the context of Cyprus, the geopolitical goals of the Cypriot communities are easily identified. For Greek-Cypriots it is ENOSIS. Union with Greece is a concept which both follows from and reinforces the Greek-Cypriot perception of Greek National territory. The ENOSIS idea is the cultural anchor of the Greek-Cypriot community. To deny ENOSIS is to deny the "Greekness" of Greek-Cypriots. It is in this light that **independence** of Cyprus must be viewed, either the independence allowed by the functional federalism of the 1960 constitution, or the independence now being sought in a unitary State. An independent Cypriot State, no matter what its form, can never be regarded as a sufficient or ultimate geopolitical goal by Greek-Cypriots as long as they regard themselves primarily as Greeks rather than Cypriots. Unless Greek-Cypriots develop a Cypriot consciousness, an independent Cypriot State will be regarded by them as a politic rather than a just situation.

I would regard the Turkish-Cypriot community's geopolitical goals as historically defensive reactions to ENOSIS which have gone through a number of stages. Up to 1955 the Turkish-Cypriot community was not politically organized to any extent. However within a period of three years a political structure was rapidly organized by a coalition of efforts directed by Turkish-Cypriot leaders, by Britain, and by Turkey. Local Turkish-Cypriot leaders were organizing to improve the bargaining position of their community in an independent Cyprus which the EOKA campaign was hastening. On the other hand Britain and Turkey wished to develop a politically strong Turkish community in Cyprus to counter Greek political demands for ENOSIS.

At the same time the violence of the EOKA campaign inevitably created Turkish martyrs thus encouraging Turkish Cypriots to forge a stronger sense of community unity.

The first-stage geopolitical goal of the Turkish-Cypriot community was the re-union of all Cyprus with Turkey. This demand gave way to the concept of partition, which was in turn replaced by the goal of an independent Cyprus based on a combination of functional and geographic federalism. The common thread of all these demands is, and has been, one overriding goal — **to prevent ENOSIS.** So long as ENOSIS was stalled a number of alternatives then became reasonable geopolitical goals for the Turkish Cypriot community.

I stated that the **causes** of conflict are to be found in the interaction between a community's goals and its behavioural environment while the results of a conflict depend on the interaction between a community's attempts to implement a goal and its phenomenal environment. Since the behavioural environment is only an approximate reflection of the phenomenal environment, we should not except the results of all political decisions

to be completely predictable. Attempts to implement a certain goal are constrained by the realities of the community's phenomenal environment even if these realities had not been appreciated during the decision — making process.

Attempts by the Cypriot communities to implement those geopolitical goals we have mentioned produced a situation of violent conflict for three reasons. Firstly, the attainment of one community's goal necessarily precluded the realization of the other community's goal. Secondly, both communities maintained that the attainment of their own goals was vital to their continued welfare. Thirty, both communities were prepared to use armed coercion as a means to obtain their respective goals.

Any attempt, by myself, to apportion blame between the communities for the violence that did result can not here serve any, useful purpose. It is interesting however to note that my contacts with members of each community have pointed to the existence of a situation commonly a precursor to many violent conflicts. This situation is known by conflict theorists as the phenomenon of self-fulfilling prophecy.

One man, believing that another man is his enemy treats him in that light even though that enmity is not reciprocal. The second man reacts to the unfriendly treatment directed at him by returning it in kind. The first man views this returned hostility as justification for his own original enmity.

Thus the men become enemies through a self-perpetuating cycle which was initiated by a distorted perception of reality. Of course when we talk of the Cypriot communities as actors rather than of Greek and Turk individuals, we must visualize not one, but a multitude of cycles which both affect and are affected by one another. In such a complex situation any action may be labelled both as a "cause" of subsequent conflict and as a "result" of preceeding conflict. Thus to name one party as the initiator of conflict and the other as the victim of that conflict means little, since by moving our time frame backward villain and victim labels change about. As we constantly push our time reference into the past to discover the **original** culprit, these increasingly remote events become less and less significant to the current situation.

I have studied the pattern of violence in Cyprus as it developed after 21 December 1963. There are in fact two patterns. The first results from the coercive action directed under the control of the leadership of both communities. The second pattern must be attributed to uncontrolled elements of both communities who used the prevailing situation to mask criminal undertaking or who took it upon themselves to exact revenge for the violence not only of 1963 and after but for 1958 as well.

Since December 1963, Greek Cypriot official sources claim that 154 members of their community have been killed and 47 are missing. Turkish-

Cypriot figures are 282 killed and 195 missing. If we consider those Cypriots who were reported missing as probably being dead, then we can state with some certainty that the majority of Greek-Cypriot deaths occurred during military or para-military operations. On the other hand, the majority of Turkish-Cypriot deaths fall within the second pattern of violence mentioned above and to that extend these casulties so intensified inter-communal enmity and aroused world public opinion that in the long run they retarded the attainment of the Greek-Cypriot community's geopolitical goals. I have related the patterns of inter-communal violence in Cyprus to existing geographical theories of conflict. These theories have not yet, unfortunately, been developed with any degree of sophistication. They are frequently stated as mechanistic "laws" in which, for example, the frequency and intensity of conflict between communities bears a direct relationship to demographic patterns.

Now, the conflict within Cyprus is not amenable to such mechanistic assumptions. It may be true, to a greater or lesser extent that the intensity and frequency of conflict varies according to the distance between Greek and Turkish villages. However we find that the communities in some areas of the island lived together with little overt antagonism while in other areas there was repeated violence. The difference can be attributed almost entirely to the motivations of local leaders or to economic and other social patterns which may "encourage" crimes such as thefts or vendettas. It may also be true that, below some critical size, a majority population will consider a minority to be harmless while the minority will similarily recognize its coercive importance. However such a majority — minority relationship changes according to the manner in which the protagonists themselves define the boundaries of the conflict area.

These observations expose the inadequacy of geography's contribution to conflict theory at present. Perhaps the growing interest by many geographers in a more behavioural approach to their discipline will correct this deficiency.

The results of the conflict in Cyprus can not be claimed by either side as a victory. The Greek-Cypriot community did not achieve ENOSIS, rather it made Turks both in Cyprus and Turkey even more determined to prevent union with Greece. The Greek-Cypriot community was thus forced to fall back upon a secondary goal, the achievement of an independent unitary Cypriot State which could become a precursor to the realization of ENOSIS. Yet even this goal has been thwarted by two results of the conflict. Firstly, Turkish Cypriots are now so distrustful of the Greek-Cypriot community's intentions that they demand a guarantee for their **physical safety** which they feel is only possible within a federal State structure. Secondly, Turkish Cypriots have in fact consolidated their community within areas which are

under the 'de facto' political and military control of the Turkish Cypriot leadership.

On the other hand, the Turkish Cypriot community has been unable to unite part of the island with Turkey or to create a viable federal State.

The manner in which the current 'de facto' geopolitical structure was created in Cyprus can be understood only if one refers to the Turkish-Cypriot refugee situation. Both the causes of the exodus and the spatial movements of those refugees are themselves a bone of contention between the Cypriot communities.

The Greek-Cypriot position is that Greeks and Turks have lived together in harmony in Cyprus for hundreds of years. The sudden withdrawal and consolidation of Turkish-Cypriots can only be explained, therefore, by assuming that their leaders used coercion both to initiate and to direct this movement.

The Turkish-Cypriot position on this matter is quite different. In their view, Turks and Greeks lived together in Cyprus peacefully until 1955 because at no time prior to that date was there the possibility of Turks being ruled by Greeks. After 1955, when it became clear that ENOSIS might be achieved, Turkish-Cypriots began to consider whether their welfare might be better ensured by partition and union with Turkey or the creation of a federal State in Cyprus. Despite these considerations, which were actively voiced by Turkish-Cypriot leaders, it is claimed that these Turkish-Cypriot leaders neither had a contingency plan to direct a population consolidation nor did they initiate the movement which did occur in 1963 and 1964. The Turkish-Cypriot community claims that its members moved because they were intimidated by Greeks and that they fled without pre-planning to the nearest refuge.

After visiting all areas inhabited by Turkish-Cypriots I am prepared to offer the following comments about the refugee situation.

The overwhelming majority of refugees moved only after fighting had occurred within their town or village or at a neighbouring town or village. In many cases however, the move was delayed until a general freedom of movement agreement was negotiated in early January 1964. In those villages which were only partially evacuated, it can be stated with only a few exceptions, that those who remained numbered only a few families and were generally very old people. On the whole, the refugees expected to return to their homes within a few months at the most, and it was in many cases this assumption of an early return (perhaps aided by the intervention of Turkey) that facilitated their departure in the first place. In some instances, the evacuation of certain villages was encouraged by the expectation of an invasion by Turkey. There was an understandable desire to withdraw from probable battle areas which would be created by an invasion

It was only in a few cases that Turkish-Cypriot leaders took the initiative in recommending to villagers that they evacuate and in certain instances this advice was not followed. It was, rather, much more typical for villages to move on their own initiative leaving most of their clothing, furniture and food behind.

It has often been noted, both by Greek-Cypriot supporters and by the United Nations, that only a minority of Turkish-Cypriots became refugees (i.e. about 20%). This is true. However this fact does not lend support a number of contentions that have been voiced; that the majority of Turks continued to live amicably with the Greek neighbours, or that most Turks were able to resist their leaders' pressures to move, or that most Turks continued to accept the authority of the Cyprus government, or that Greek forces were largely successful in thwarting Turkish plans for partition. I would suggest rather that only such a minority of the Turkish-Cypriot community moved because the majority of Turks lived in areas which Greeks were unable or unwilling to penetrate.

If the spatial pattern of the Turkish refugees movement is examined the following conclusions can be drawn. In the first instance, refugees moved 'en masse' to the nearest Turk controlled village. A subsequent re-distribution of refugees took place when individual families left their first hostels for more distant areas where they had relatives or heard there was better accommodation, better employment, or more security. Many refugees from all over the island moved to the Turkish quarter of Nicosia because it was here that they thought housing and employment could be most readily found. Also, the Nicosia enclave offered the most security since it was here that the National Contingent from Turkey was stationed. Any official administrative organization to handle refugee welfare was not established till after the bulk of refugees had in fact moved and established, without any centralized directives, the pattern of concentration which exists today. The actual area of territory controlled by the Turkish-Cypriot leadership is hard to assess since now, during a period of relative calm, there is more freedom of movement than would be allowed in more unsettled times. I would however suggest that about 90% of all Turkish - Cypriots reside in areas outside the 'de facto' military control of the Cyprus government.

Both the United Nations and the Greek-Cypriot leadership are of course well aware of the extent of these Turkish controlled areas. The United Nations refuses officially to recognize the existence of many of these areas because by so doing it believes it would hinder its efforts to encourage a return to normal conditions. The Greek-Cypriot administration refuses officially to admit to the existence of these areas because such recognition would both contradict the contention that the Greek-Cypriot controlled government of Cyprus does in fact represent all Cypriots and

prejudice an attempt to create a unitary State.

Being rather cynical, we can state that the inter-communal conflict has only accelerated an already pronounced movement of rural Turkish-Cypriots to the towns and larger villages. Estimates given by reliable officials vary as to the percentage of all refugees who will return. In my view, it is reasonable to assume that only landowners will return. Labourers have found work in the towns. Schools and social amenities are better in the towns. Houses constructed for refugees are superior to those evacuated by most rural Turkish-Cypriots. Children have grown and married and no longer consider the evacuated village as home. My studies indicate that perhaps thirty or more villages may not be resettled even if a political settlement is achieved. This number might even be much larger unless the Turkish-Cypriot leadership is prepared to exert some forms of pressure to return on many of the refugees.

It must, surely, be an optimistic man who would believe that the Turkish-Cypriot community has a viable geographic base to support goals of either partition or a "State within a State".

One must consider the size of Cyprus itself, the nature of the island's economy, the substantial economic losses incurred by the Turkish-Cypriot community during its migration, and both the fragmented character and small area of the Turkish-Cypriot controlled territories. As has rightly been observed, the establishment of such a viable geographic base would require compulsory migrations and land swaps which would be unacceptable to most Greek-Cypriots and would thus cause rather than resolve further conflict.

On the other hand, we would today, in my opinion, be misguided to think that partition or any seperated geopolitical entity within Cyprus is the primary goal of the Turkish-Cypriot community. It is not! That primary goal is to **prevent ENOSIS** and as long as ENOSIS is defined as the union of all Cyprus with Greece these fragmented enclaves, economically and militarily supported by Turkey, seem to be an effective bargaining point.

Of course in the present circumstances, ENOSIS is not being prevented by Turks in Cyprus but by the Turks in Turkey. Cypriot Turks are aware, that in the sphere of international politics, in the long run nothing is as constant as change. They are therefore uneasy to have to rely on Turkey to pay the premiums on an anti-ENOSIS insurance policy. How long can Turkey afford to hand over £10 million per year to Turkish-Cypriots who have a higher per capita standard of living than the mainland Turks supplying the cash. The Turkish-Cypriot leadership therefore would prefer to create a geopolitical structure within Cyprus that could effectively block Enosis without the need for external guarantees which may in changing circumstances, fail to materialize. From the Turkish-Cypriot point of view,

the optimum solution would include both internal and external guarantees: the creation of a federal State in Cyprus, continued economic aid from Turkey, and a treaty providing for Turkish military intervention if an ENOSIS attempt become likely. Greek-Cypriots on the other hand have been forced to admit that the "desirable solution" of ENOSIS is not at this moment "feasible". However they are unlikely to accept a geopolitical solution that will extinguish the ENOSIS flame completely.

ΑΙ ΥΠΑΙΘΡΙΟΙ ΜΕΛΕΤΑΙ ΕΙΣ ΤΟ ΜΑΘΗΜΑ ΤΗΣ ΓΕΩΓΡΑΦΙΑΣ

Ὑπὸ Α. ΧΡΙΣΤΟΥ
Καθηγητοῦ Γεωγραφίας

Τὸ ἄρθρον αὐτὸ δὲν ἔχει ὡς σκοπὸν νὰ ὑποδείξῃ κατὰ ποῖον τρόπον γίνεται μία ὑπαίθριος μελέτη (Field Work), οὔτε ἐπίσης νὰ προσφέρῃ ὑλικὸν διὰ τοιούτου εἴδους μελέτας. Σκοπός μας εἶναι νὰ δείξωμεν τὴν σημασίαν τὴν ὁποίαν δύναται νὰ ἔχῃ ἡ ἐκτὸς τῆς τάξεως διδασκαλία τοῦ μαθήματος τῆς Γεωγραφίας διὰ τὴν πραγματικὴν ἔκφρασιν τῆς Γεωγραφίας ὡς ἐφηρμοσμένης ἐπιστήμης.

Θεωροῦμεν τὴν Γεωγραφίαν ὡς τὴν ἐπιστήμην ἡ ὁποία σκοπὸν ἔχει τὴν ταξινόμησιν καὶ ἑρμηνείαν τῶν σχέσεων ἀνθρώπου-περιβάλλοντος, ἀκολουθοῦσα μίαν ἐξερευνητικὴν πορείαν, κατὰ τὴν ὁποίαν ὁ μελετητὴς ἀνακαλύπτει διὰ τὸν ἑαυτόν του, πρωτίστως, τὸν πλοῦτον καὶ τὸ ὑπέροχον δίκτυον μὲ τὸ ὁποῖον ἡ Φύσις ὕφανε τὸν κόσμον καὶ τοῦ ὁποίου αὐτός, ἀποτελεῖ τμῆμα.

Ἡ Γεωγραφία εἶναι κατ' ἐξοχὴν ἐξερευνητικὴ καὶ περιγραφικὴ ἐπιστήμη καὶ συλλέγει τὸ ὑλικό της, κυρίως ἀπὸ ἐξερευνήσεις. Εἶναι δὲ ζωτικῆς σημασίας τὸ πνεῦμα αὐτὸ τῆς ἐξερευνήσεως νὰ ἀποτελῇ τὸν κύριον σκοπὸν τῆς ἐκπαιδευτικῆς γεωγραφίας. Οἱ μαθηταὶ πρέπει νὰ διδάσκωνται εἰς τὸ νὰ «πηγαίνουν» νὰ βλέπουν, νὰ ἀνακαλύπτουν καὶ ἔπειτα βεβαίως νὰ ἑρμηνεύουν καὶ νὰ ἀφομοιώνουν.

Ποία λοιπὸν εἶναι ἡ ἐνδεικνυομένη μέθοδος, ἡ προσεγγίζουσα τὸ πνεῦμα καὶ τὸ γράμμα τοῦ σκοποῦ αὐτοῦ τῆς ἐκπαιδευτικῆς γεωγραφίας;

Πέραν πάσης ἀμφιβολίας αἱ ὑπαίθριοι μελέται εἶναι ὅτι ἀκριβῶς θὰ ἠδυνάμεθα νὰ προτείνωμεν. Τοῦτο προφανῶς ὀφείλεται εἰς τὸ γεγονὸς ὅτι αἱ σχέσεις μεταξὺ τοῦ φυσικοῦ καὶ γεωγραφικοῦ περιβάλλοντος εἶναι πλέον ἐμφανεῖς εἰς τὴν ὕπαιθρον. Ἡ ἐπίδρασις δὲ τῶν φυσικῶν παραγόντων, κλιματικῶν, ἐδαφικῶν, μορφολογικῶν, βιογεωγραφικῶν καὶ ἄλλων εἶναι ἄμεσος ἐπὶ τῆς ζωῆς τῶν ἀνθρώπων καὶ φαίνεται ἀπὸ τὸν τρόπον μὲ τὸν ὁποῖον οὗτοι χρησιμοποιοῦν τὸ ἔδαφος καὶ ἀπὸ τὸν τρόπον ποὺ δημιουργοῦν τοὺς συνοικισμούς των.

Ἡ ὑπαίθριος μελέτη, καίτοι ἀποτελεῖ τὸ κυριώτερον μέρος μιᾶς γεωγραφικῆς μελέτης, εἶναι ἴσως ὁ σπουδαιότερος νεωτερισμὸς εἰς τὴν νέαν ἔκφρασιν τῆς Γεωγραφίας. Αἱ σπουδαιότεραι δὲ ἔρευναι σήμερον βασίζονται ἐπ' αὐτῆς. Ἡ ἀναγκαιότης τῶν ὑπαιθρίων μελετῶν παρώρμησε τοὺς περισσοτέρους ἐκπαιδευτικοὺς κύκλους, κυρίως τῶν ἀνωτέρων βαθμίδων, νὰ καταστήσουν αὐτὰς ὡς ὑποχρεωτικὸν μέρος τῆς ἐκπαιδεύσεως.

Ὁ λόγος διὰ τὸν ὁποῖον ἡ ὑπαίθριος μελέτη δὲν ἔχει πλήρως ἐπικρατήσει εἰς ὅλας τὰς βαθμίδας τῆς ἐκπαιδευτικῆς γεωγραφίας ἀκόμη, εἶναι διότι ἀφ' ἑνὸς μὲν οἱ περισσότεροι διδάσκοντες τὴν γεωγραφίαν σήμερον δὲν εἶναι κατὰ κύριον λόγον γεωγράφοι, ἀφ' ἑτέρου δὲ διότι ἡ ὑπαίθρια μελέτη ἀπαιτεῖ καλὴν γεωγραφικὴν γνῶσιν.

Παρ' ὅλα αὐτά, θὰ προσπαθήσωμεν νὰ διασκεδάσωμεν τὴν ἀντίληψιν αὐτήν, ὑποδεικνύοντας ταυτοχρόνως τὴν σχέσιν τῆς ὑπαιθρίου μελέτης μὲ τὴν διδασκαλίαν τῆς Γεωγραφίας ἐντὸς τῆς τάξεως, ὥστε νὰ εἶναι εὔκολος, τόσον διὰ τὸν ἐρασιτέχνην, ὅσον καὶ διὰ τὸν ἐξ ἰδιότητος γεωγράφον.

Ἡ ὑπαίθριος μελέτη εἶναι στενὰ συνδεδεμένη μὲ τὴν ἐξερεύνησιν καὶ ἡ ἐξερεύνησις δὲν εἶναι κάτι τί τὸν νέον. Ὅταν ὁ πρωτόγονος ἄνθρωπος ἀνεζήτει νέους θηρευτικοὺς χώρους, δὲν ἐφήρμοζεν τὶ ἄλλο παρὰ πρακτικὸν τύπον γεωγραφικῆς ἐξερευνήσεως. Ἀσφαλῶς δὲ ἡ ἀνθρωπίνη

γνῶσις τοῦ κόσμου ἔχει οἰκοδομηθῆ διὰ μέσου τῶν αἰώνων ἀπὸ ἐξερευνήσεις, αἱ ὁποῖαι ἀπετέλεσαν τὰς πρώτας γεωγραφικὰς συγγραφάς. Ἐπομένως ἡ ἔφεσις πρὸς τὸ πνεῦμα αὐτὸ τῆς ἐξερευνήσεως εἶναι σημαντικὸν ἐλατήριον δι' ὑπαιθρίους μελέτας καὶ ἀπὸ αὐτὰ τοῦτα τὰ παιδιά.

Πάρα πολλοὶ σπουδαῖοι Γεωγράφοι ἔχουν ἀναγνωρίσει τὴν ἀξίαν τῆς ὑπαιθρίου μελέτης, εἰς τρόπον ὥστε νὰ μὴν χρειάζεται οἱαδήποτε προπαγάνδα ὑπὲρ αὐτῆς. Πρῶτος ὁ διάσημος Mackinder εἰς τὸ σύγγραμμά του «The Geographical Teacher» δίνει πολλὰς ὁδηγίας διὰ τὸ «field work». Ὁ Fairgrieve περισσότερον ἐμφαντικὸς τονίζει: «Ἡ γεωγραφία πρέπει νὰ μανθάνεται μέσῳ τῆς σόλας τῶν παπουτσιῶν σας». Ἡ Olive Garnett μὲ τὸ ἔργον της «Fundamentals in School Geography» ἀποδεικνύει τὴν σημασίαν τῶν τοπικῶν μελετῶν (local studies) εἰς τὸ μάθημα τῆς Γεωγραφίας. Ὁ Stamp μὲ τὸ ἔργον του «Land use survey» εἰσήγαγεν χιλιάδας μαθητῶν εἰς τὰς ὑπαιθρίους μελέτας. Τέλος εἰς σεμινάριον συγκληθὲν τὸ 1964 εἰς Βρεττανίαν, εἰς τὸ ὁποῖον ἔλαβον μέρος 150 περίπου καθηγηταὶ Γεωγραφίας, προέτεινον ὁμοφώνως τὴν εἰσαγωγὴν τῶν ὑπαιθρίων μελετῶν ὡς ὑποχρεωτικὸν μάθημα τοῦ ἀναλυτικοῦ προγράμματος τῆς μέσης ἐκπαιδεύσεως.

Γεννᾶται ὅμως τὸ ἐρώτημα: Διατὶ θὰ πρέπει νὰ γίνωνται ὑπαίθριοι μελέται; Καὶ τί προσφέρουν εἰς τὴν ἐκπαίδευσιν;

Τὸ μάθημα τῆς Γεωγραφίας ὡς ἐκ τῆς φύσεως του καὶ τοῦ θέματος τὸ ὁποῖον πραγματεύεται πρέπει ἀπαραιτήτως νὰ εἶναι ρεαλιστικόν. Δηλαδὴ νὰ προσφέρῃ ζωντανὰ παραδείγματα εἰς τὸν μαθητήν, ὥστε ὡς ὁ Fairgrieve ἀναφέρει «νὰ ἐκπαιδεύωνται οἱ μελλοντικοὶ πολῖται νὰ φαντάζωνται ἐπακριβῶς τὰς ἐπικρατούσας συνθήκας εἰς ἕνα μεγάλο τοὐλάχιστον μέρος τοῦ κόσμου μας».

Θὰ διερωτᾶτο ἴσως κανεὶς ἐὰν ὅλα ὅσα θὰ ἐβλέπαμεν εἰς τὴν ὕπαιθρον θὰ ἠδύναντο νὰ προσφερθοῦν μέσῳ εἰκόνων μέσα εἰς τὴν αἴθουσαν διδασκαλίας. Ἀλλὰ καλαὶ γεωγραφικαὶ εἰκόνες δύνανται νὰ δώσουν ὅτι πραγματικὰ θέλει νὰ δώσῃ ἡ Γεωγραφία; «Ὁπωσδήποτε, ἡ χρησιμοποίησις φωτογραφικοῦ ὑλικοῦ δὲν ἐγγυᾶται ἓν ἀποδοτικὸν μάθημα καὶ μπορεῖ ἀκόμη νὰ περιορίσῃ τὴν ἀξίαν τῆς διδασκαλίας». (Michael Storm).

Ἐπὶ παραδείγματι, ἂν λάβωμεν ὑπ' ὄψιν μας τὴν βλάστησιν τῆς Κύπρου, καὶ αἱ καλύτεραι εἰκόνες διαφόρων βοτανικῶν εἰδῶν δὲν δύνανται νὰ δώσουν τὴν ζωντανὴν ἐντύπωσιν, φερ' εἰπεῖν ἑνὸς περιπάτου εἰς τὸ δάσος τῶν Κέδρων, ἢ τῶν «κρίνων τοῦ γυαλοῦ», ποὺ βλαστάνουν εἰς τὰς ἀμμώδεις ἐκτάσεις τῶν ἀκτῶν τῆς Καρπασίας.

Ἀλλὰ πέραν αὐτοῦ, τὸ κυριώτερον ἴσως ἐπιχείρημα διὰ τὴν περίληψιν τῶν ὑπαιθρίων μελετῶν ὡς βασικοῦ μέρους τῆς ἐκπαιδευτικῆς γεωγραφίας εἶναι, ὅτι ἡ Γεωγραφία γράφεται ἀπὸ πραγματικὰς ὑπαιθρίους μελέτας. Καὶ ἐὰν ὑπάρχῃ τί τὸ σπουδαῖον εἰς τὴν μελέτην τῆς Γεωγραφίας, αὐτὸ ὁπωσδήποτε χάνεται ἐὰν τὰ παιδιὰ δὲν δυνηθοῦν τὰ ἴδια μόνα των νὰ κατανοήσουν μερικὰς, ἔστω, ἀπὸ τὰς βασικὰς ἀρχάς της. Ὁ ἔμπειρος Γεωγράφος ἐξερευνᾶ τὸ τοπίον. Μέρος δὲ τῆς ἐκτιμήσεως τοῦ θέματος ἀπὸ τὰ παιδιά, ἐξαρτᾶται ἀπὸ τοῦ ἐὰν τὰ ἴδια μποροῦν νὰ κάνουν τοιούτου εἴδους ἐξερευνήσεις.

Ἄλλο ἐπιχείρημα, εἶναι ὅτι βασικὸν μέρος τῆς ἐκπαιδευτικῆς γεωγραφίας εἶναι ἡ ἱκανότης τῶν παιδιῶν εἰς τὴν ἀνάγνωσιν τῶν χαρτῶν. Ἡ ὑπαίθριος μελέτη περικλείει τὴν δυνατότητα συσχετισμοῦ τῶν χαρτῶν μὲ τὸ ἔδαφος ἐξ ὑπαρχῆς, καὶ ὡς ἐκ τούτου ἀναπτύσσει καὶ ἐνδυναμώνει τὴν ἱκανότητα αὐτήν.

Ἀλλὰ τί πιὸ ὡραῖον εἶναι ἀπὸ τοῦ νὰ δύνανται τὰ παιδιὰ νὰ καταλαβαίνουν τὸ τοπίον; Μήπως δὲν θὰ γίνουν καλύτεροι πολῖται ἐὰν διδαχθοῦν νὰ παρατηροῦν καὶ νὰ ἐκτιμοῦν τὴν γῆν ἐντὸς τῆς ὁποίας ζοῦν; Μήπως δὲν μορφώνονται καλύτερον ἐὰν δύνανται νὰ βλέπουν περισσότερον ἀπὸ ἁπλᾶς συστάδας δένδρων, φρακτῶν, σπιτιῶν καὶ ἐργοστασίων; Πιστεύομεν ἀκραδάντως ὅτι αἱ ὑπαίθριοι μελέται ἔχουν

νὰ προσφέρουν εἰς τὸν ἄνθρωπον μίαν βαθύτερην ἀντίληψιν τοῦ πολιτισμοῦ ποὺ ἐκληρονόμησεν καὶ τὴν δυνατότητα νὰ ἀποκτᾶ πλουσιωτέρας ἐμπειρίας κατὰ τὴν διάρκειαν τῶν διακοπῶν του, σήμερα μάλιστα ποὺ τὰ ταξείδια εἶναι κοινὰ εἰς ὅλους. Ὅσοι δὲ ἀπέκτησαν τὴν ἱκανότητα αὐτήν, τῆς μελέτης τοῦ τοπίου, ἀπέκτησαν θησαυρόν, ὁ ὁποῖος κάνει τὴν ἐπιφάνειαν τῆς γῆς μίαν ἀστείρευτον πηγὴν ἐρεύνης καὶ ἐνδιαφέροντος.

Ὁποιαδήποτε ὑπὸ ἐξέτασιν περιοχή, παρθένος ἢ κατῳκημένη, προσφέρει πέραν πάσης ἀναλογίας χρόνου, ὁ ὁποῖος ἐξοδεύθη δι' αὐτήν, ἀνεκτίμητον βοήθειαν εἰς τὴν ἐντὸς τῆς τάξεως διδασκαλίαν. Ἁπλοῖ γεωγραφικοὶ ὅροι, ἢ γεγονότα καθίστανται ζωντανά, διότι ἔχουν ἀποκτηθῆ ἐξ ἰδίας πείρας. Χωρὶς τὴν ἐμπειρίαν τῆς ὑπαίθρου ἁπλοῖ ὅροι ὡς κατωφέρεια, ἄνω ροῦς τοῦ ποταμοῦ, πυκνοκατῳκημένη περιοχή, σημαίνουν διαφορετικὰ πράγματα εἰς διαφόρους μαθητάς. Ἡ ἀξία δὲ μίας τοιαύτης ἐμπειρίας εἶναι ὑπεράνω τῆς ἀξίας πολλῶν μαθημάτων.

Σήμερον, εἰς τὴν ἐκπαίδευσιν, καὶ κυρίως εἰς τὸ μάθημα τῆς Γεωγραφίας, ἐπικρατεῖ ἡ μέθοδος τῆς ἐκθετικῆς προσφορᾶς τοῦ μαθήματος ἀπὸ τὸν διδάσκοντα, εἰς τρόπον ὥστε ὁ μαθητὴς νὰ εἶναι δέκτης γεγονότων καὶ καταστάσεων. Ἡ δὲ ἐπιμονὴ εἰς τὴν τοιαύτην προσφορὰν τοῦ μαθήματος δύναται νὰ ἐξηγήση ἐκ τοῦ ἀσφαλοῦς, διατὶ πολλοὶ διδάσκοντες εἶναι ἀπρόθυμοι νὰ λάβουν μέρος εἰς ὑπαιθρίους μελέτας.

«Πρέπει νὰ διδαχθῶ τὴν Γεωγραφίαν τῆς Α περιοχῆς προτοῦ ὁδηγήσω τὰ παιδιὰ ἐκεῖ!» «Δὲν γνωρίζω καθόλου τὴν περιοχὴν Β· πῶς θὰ πάω;» Ἀσφαλῶς αὐτοὶ οἱ φόβοι δὲν εἶναι ἄνευ σημασίας. Θὰ ἦτο ἄρνησις πάσης ἀκαδημαϊκῆς μεθόδου νὰ εἰσηγηθῶμεν ὅτι ὁ διδάσκων δὲν πρέπει νὰ γνωρίζη τίποτε διὰ τὴν ὑπὸ ἐξέτασιν περιοχήν. Ἀλλὰ πρέπει νὰ τονισθῆ ὅτι ἡ γνῶσις αὐτὴ δὲν πρέπει νὰ εἶναι πρὸς ἀπ' εὐθείαν μετάδοσιν πρὸς τοὺς μαθητάς, ἀλλὰ ὁδηγὸς διὰ τὸν διδάσκοντα εἰς τὸ νὰ ἐξεύρη χρησίμους ἀσκήσεις καὶ σημαντικὸν ὑλικὸν δι' ἀνακάλυψιν ὑπὸ τῶν μαθητῶν. Σήμερον δὲ ἡ μεγαλυτέρα ἔμφασις ἐπὶ τῆς ἐκπαιδευτικῆς γεωγραφίας σχετίζεται μὲ τὴν τεχνικὴν κυρίως τῆς προσφορᾶς τοῦ μαθήματος, καὶ σ' αὐτὸ ἴσως ὀφείλεται ἡ σημασία τοῦ νὰ γίνεται καθὼς πρέπει μία ὑπαίθριος μελέτη. Ἑπομένως, καὶ μικρὴ σχετικῶς γνῶσις τῆς περιοχῆς ὑπὸ τοῦ διδάσκοντος, εἶναι ἀρκετὴ διὰ τὴν ὑπαίθριον μελέτην.

Ἐκ τῶν ἀνωτέρω ἐξάγεται τὸ συμπέρασμα ὅτι ὁ διδάσκων θὰ πρέπει νὰ εἶναι ὁ ὁδηγὸς καὶ ὁ κατευθύνων τοὺς μαθητὰς πρὸς ὡρισμένες ἀνακαλύψεις καὶ ὄχι ὁ προσφέρων τὰς ἀνακαλύψεις αὐτάς. Ἐπίσης διὰ τοὺς μικρᾶς ἡλικίας μαθητὰς τὸ field work πρέπει νὰ ὁδηγῆ εἰς ὡρισμένα φαινόμενα, τὰ ὁποῖα ἐμφαίνονται σαφῶς εἰς τὴν ὑπὸ ἐξέτασιν περιοχήν.

Εἶναι ἔργον καὶ προνόμιον τῶν διδασκάλων νὰ προσφέρουν εἰς τοὺς μαθητὰς των μέρος τῶν γνώσεών των, ὥστε νὰ βλέπουν τὴν ὕπαιθρον, τὸ τοπίον, νὰ διακρίνουν τὴν δομήν του καὶ νὰ ἀναγνωρίζουν τὴν διαδικασίαν καὶ τὰ στάδια σχηματισμοῦ του, ὥστε νὰ τὸ ἐκτιμοῦν καὶ νὰ κατευθύνουν πλέον τὰς πράξεις των ὄχι πρὸς καταστροφήν του, ἀλλὰ πρὸς διατήρησιν καὶ ἐξωραϊσμόν του.

«Πραγματικὴ ἐμπειρία, κοινὰ χαρακτηριστικά, ἱκανότης ἐπεξηγήσεως. Ἀποκτηθέντων τούτων εἰς τὴν ὕπαιθρον καθιστοῦν δυνατὴν τὴν ρεαλιστικὴν ἀντίληψιν περιοχῶν ἀπομακρυσμένων, ποὺ δὲν εἶναι δυνατὸν νὰ τὰς ἐπισκεφθῆ κανείς, καὶ μάλιστα ὑπὸ τὴν ἔποψιν πραγματικοὶ ἄνθρωποι εἰς πραγματικοὺς τόπους» (M. Long).

Ἀλλὰ καὶ τὸ ὅλον θέμα τῆς ἐργασίας εἰς τὴν ὕπαιθρον εἶναι ὅτι ἡ Γεωγραφία εἶναι κατ' ἐξοχὴν ρεαλιστικὴ ἐπιστήμη καὶ ἡ ρεαλιστικὴ Γεωγραφία χάνεται ἐὰν ὁ διδάσκων ἐνδιατρίβει μόνον εἰς περιλήψεις γεγονότων. Ἡ Γεωγραφικὴ τριλογία, παρατήρησις, καταγραφή, ἐπεξήγησις εἶναι ὅ,τι προσφέρουν αἱ ὑπαίθριοι μελέται, αἱ ὁποῖαι ἀποτελοῦν πραγματικὴν γεωγραφικὴν ἐμπειρίαν ἐκπληροῦσαν κάθε προσ-

δοκίαν τοῦ Γεωγράφου. Πιστεύομεν ὅτι αἱ ὑπαίθριοι μελέται συμφωνοῦν πλήρως μὲ τὰς βασικὰς ἀρχὰς τῆς γεωγραφικῆς μεθόδου καὶ τῆς ἐκπαιδεύσεως ἐν γένει.

Ἂς ἐξετάσωμεν ὅμως καὶ τὰς σχέσεις αἱ ὁποῖαι ὑπάρχουν μεταξὺ τῆς ἐργασίας εἰς τὴν ὕπαιθρον καὶ τῆς ἐργασίας μέσα εἰς τὴν τάξιν.

Βασικὴ προϋπόθεσις ὅλων ὅσων ἔχομεν ἀναφέρει εἶναι ὅτι τὸ περιεχόμενον τῆς μελέτης εἰς τὴν ὕπαιθρον πρέπει νὰ συσχετίζεται στενῶς μὲ τὴν ὅλην ἐργασίαν μέσα εἰς τὴν τάξιν. Παρ' ὅλον ὅτι φαίνεται ἐντελῶς ξεχωριστὸν θέμα ἡ ὑπαίθριος μελέτη, ἐν τούτοις ὅταν προϋπάρξη ἡ κατάλληλος προετοιμασία μέσα εἰς τὴν τάξιν θαυμάσια μπορεῖ νὰ ὑπάρξη συγκερασμὸς τῶν δύο μεθόδων. Πρέπει ὅμως ἐδῶ νὰ τονίσωμεν τὴν σημασίαν τῆς ἀρχῆς τῆς παραλλήλου συσχετίσεως τῶν μελετῶν, τόσων τῶν ὑπαιθρίων ὅσων καὶ τῶν εἰς τὴν τάξιν.

Ἂν οἱ μαθηταὶ ἀντιληφθοῦν μελετῶντας εἰς τὴν ὕπαιθρον καὶ ἀνακαλύπτοντας τὴν σημασίαν τῆς θέσεως, φερ' εἰπεῖν τῆς τοπικῆς ἀγορᾶς τῆς ἐξυπηρετούσης τὴν περιοχήν, τότε ἀσφαλῶς θὰ καταλάβουν πολὺ εὐκολώτερα τὴν σημασίαν τῆς θέσεως σπουδαίων λιμένων τῆς ὑφηλίου ἐξυπηρετούντων τὸ παγκόσμιον ἐμπόριον.

Ἄλλο παράδειγμα παραλλήλων μελετῶν εἶναι καὶ τὸ ἀκόλουθον. Μία ἐπίσκεψις εἰς ἕνα ὑδατοφράκτην καὶ ἡ μελέτη τῆς παροχῆς ὕδατος εἰς μίαν περιοχὴν πρέπει νὰ συνδυασθῆ μὲ τὸ μάθημα τῆς μελέτης τῶν ἀρδευτικῶν συστημάτων, εἴτε τῶν παραμεσογειακῶν χωρῶν, εἴτε τοῦ προβλήματος ἀρδεύσεως εἰς τὰς χώρας τῶν μουσώνων.

Ἡ πραγματικὴ ἀνάλυσις μιᾶς περιοχῆς πρέπει νὰ γίνεται εἰς τὴν ὕπαιθρον. Ἡ παράλληλος μέθοδος μέσα εἰς τὴν τάξιν πρέπει νὰ εἶναι ἡ δι' εἰκόνων καὶ χαρτῶν, ἢ μέσῳ ἀντιπροσωπευτικῶν συγκεκριμένων παραδειγμάτων (sample study).

Ὁμιλῶντας συνεχῶς διὰ ὑπαιθρίους μελέτας πρέπει νὰ διευκρινίσωμεν ὅτι μὲ τὸν ὅρον αὐτὸν ἐννοοῦμεν ὅλας τὰς μελέτας ἐκτὸς τῆς τάξεως. Ἑπομένως περιλαμβάνονται καὶ αἱ μελέται ἐντὸς τῶν ἀστικῶν χώρων καὶ οὐχὶ μόνον αἱ μελέται εἰς ἀγροτικὰς περιοχάς.

Αἱ μελέται δὲ ἀστικῶν χώρων παρουσιάζουν ἐξαιρετικὸν ἐνδιαφέρον, προσφέροντας πλοῦτον ἀσκήσεων καὶ θεμάτων πρὸς συζήτησιν μέσα εἰς τὴν τάξιν, διὰ τοὺς τρόπους χρήσεως τοῦ χώρου εἰς τὰς πόλεις ὅπως π.χ. τὸ πρόβλημα τῆς τροχαίας κινήσεως καὶ ἄλλων. Αὐτοῦ τοῦ εἴδους αἱ μελέται παρουσιάζουν ἕνα ἀπὸ τὰ κυριώτερα θέματα τῆς Γεωγραφίας τοῦ Κόσμου, τὴν Ἀστικοποίησιν. Ἐπὶ τῇ βάσει δὲ τῶν μελετῶν αὐτῶν δύναται παραλλήλως νὰ διδαχθῆ ἐντὸς τῆς τάξεως καὶ ἡ ἀστικοποίησις εἰς μεγάλας πόλεις διαφόρων χωρῶν. Δύναται ἐπίσης νὰ ἐξετασθῆ ταὐτόχρονα καὶ τὸ πρόβλημα τῶν πυκνοκατῳκημένων χωρῶν τῆς Ἀσίας.

Γεννᾶται ὅμως τώρα τὸ ἐρώτημα: Μήπως ὑπάρχει δυνατότης εἰσαγωγῆς ὑπαιθρίων μελετῶν καὶ εἰς τὸ μάθημα τῆς Γεωγραφίας ἐν Κύπρῳ;

Δυστυχῶς εἶναι κάπως δύσκολον νὰ ὁμιλῶμεν περὶ εἰσαγωγῆς εἰς τὸ ὡρολόγιον πρόγραμμα τῶν σχολείων μας περιόδου γεωγραφικῶν ὑπαιθρίων μελετῶν, ὅταν ἤδη τὸ μάθημα τῆς Γεωγραφίας ἔχει σχεδὸν παραμεληθῆ ἐντελῶς. Σὰν μονόωρο μάθημα ἡ Γεωγραφία δὲν εἶναι ποτὲ δυνατὸν νὰ ἀποδώση, οὔτε κὰν τὸ νόημα τοῦ τί ἐστὶ γεωγραφία! Πόσον μᾶλλον νὰ ἐξευρεθῆ τρόπος καὶ ὥρα δι' ὑπαιθρίους μελέτας!

Ἐν πάσῃ περιπτώσει, ἐλπίζομεν ὅτι λίαν προσεχῶς τὸ μάθημα αὐτὸ θὰ ἐπεκταθῆ ὄχι μόνον εἰς τὰς τρεῖς πρώτας τάξεις τῆς γυμνασιακῆς μορφώσεως, ὅπου κατ' ἀνάγκην ἡ διδασκαλία μᾶλλον πρέπει νὰ εἶναι εἰσαγωγικὴ εἰς τὸ θέμα τῆς Γεωγραφίας, ἀλλὰ καὶ εἰς τὰς ἀνωτέρας τάξεις, ὅπου δύναται κανεὶς πλέον νὰ πραγματευθῆ τὴν οὐσίαν τῆς Γεωγραφίας.

Νομίζομεν ὅτι δὲν θὰ ἦτο οὐτοπία νὰ προσπαθήσωμεν βραχυπροθέσμως νὰ λύσωμεν τὸ πρόβλημα εἰσαγωγῆς ὑποτυπωδῶν ἔστω ὑπαιθρίων μελετῶν εἰς τὰ σχολεῖα μας.

Κατ' ἀρχὴν ἂς ἀναφέρωμεν τοὺς σχο-

λικοὺς ὁμίλους. Διατὶ νὰ μὴ χρησιμοποιοῦνται αἱ ὧραι συγκεντρώσεως αὐτῶν τῶν ὁμίλων δι' ὑπαιθρίους μελέτας; Πόσο θαυμάσιον θὰ ἦτο ἂν σύμβουλοι-καθηγηταὶ τῶν Γεωγραφικῶν ἢ τῶν Φυσιογνωστικῶν ὁμίλων συνώδευον τοὺς μαθητὰς εἰς μίαν ὑπαίθριον ἐξόρμησιν; Φυσικὰ παρουσιάζεται τὸ μειονέκτημα ὅτι δὲν θὰ λαμβάνουν μέρος ὅλοι οἱ μαθηταί, ἀλλ' ἐν πάσῃ περιπτώσει «ἐκ δύο κακῶν τὸ μὴ χεῖρον βέλτιστον».

Ἐκ δευτέρου ἀναφέρομεν τὰς ἐκπαιδευτικὰς ἐκδρομάς. Δυνάμεθα νὰ παρατηρήσωμεν ὅτι αἱ ἐκπαιδευτικαὶ ἐκδρομαὶ συνήθως περιορίζονται εἰς ἱστορικοὺς μόνον χώρους. Χωρὶς νὰ ὑποτιμῶμεν τὴν ἀξίαν τῶν τοιούτων ἐκδρομῶν θὰ ἠθέλαμεν νὰ παρατηρήσωμεν ὅτι συχνάκις συμβαίνει, οἱ μαθηταὶ μιᾶς τάξεως νὰ ἐπισκεφθοῦν, δὶς τοὐλάχιστον, χώρους τοὺς ὁποίους ἤδη εἶχον ἐπισκεφθῆ εἰς μικροτέρας τάξεις. Θὰ ἦτο καλὸν ἀντὶ νὰ σπαταληθῆ ὁ χρόνος αὐτὸς εἰς ἐπισκέψεις εἰς τοὺς ἰδίους χώρους νὰ ἀφιερωθῆ διὰ μίαν ὑπαίθριον μελέτην. Ἐπίσης αἱ ἐκδρομαὶ εἰς ἐργοστάσια νὰ μὴν περιορίζωνται εἰς τὸν τρόπον λειτουργίας των, ἀλλὰ καὶ τῆς θέσεως των, τῆς συμβολῆς των εἰς τὴν οἰκονομίαν, τὸν συσχετισμόν των μὲ ἄλλα ἐργοστάσια κλπ. Νομίζομεν ὅτι δὲν θὰ εἶχον νὰ ὠφεληθοῦν ὀλιγώτερον οἱ μαθηταί μας. Ἀπεναντίας λεπτομερεῖς ὑπαίθριοι μελέται ὁδηγοῦν τὸν μαθητὴν εἰς τὴν ἀπόκτησιν ἱκανότητος καταγραφῆς τῶν παρατηρήσεων του, πρᾶγμα τὸ ὁποῖον ἔχει μεγάλην ἐκπαιδευτικὴν ἀξίαν.

Πέραν ὅμως αὐτοῦ, αἱ ὑπαίθριοι μελέται ἀποκαλύπτουν τὸν τύπον τῶν διαφοροποιήσεων αἱ ὁποῖαι λαμβάνουν χώραν εἰς τὸ φυσικὸν περιβάλλον, καὶ τοιουτοτρόπως δίνουν ἔμφασιν εἰς ἕνα ζωτικὸν σημεῖον τῆς γενικῆς Γεωγραφίας — ὅτι κανένα ἀνθρώπινον περιβάλλον δὲν εἶναι ἀπόλυτα στατικόν. Ἐπίσης βοηθοῦν εἰς τὴν ἀνάπτυξιν τῆς πραγματικῆς κατανοήσεως τοῦ φυσικοῦ περιβάλλοντος ὡς παράγοντος ἐλέγχοντος τὴν ζωὴν τῶν ἀνθρώπων.

«Αὐτὴ δὲ ἡ ἐργασία ἡ ὁποία παρορμᾶ τὸν μαθητὴν εἰς τὴν ἀνακάλυψιν, καταγραφὴν καὶ ἐξαγωγὴν συμπερασμάτων εἶναι ἐκπαιδευτικῶς προτιμητέα ἀπὸ τὴν παθητικὴν ἀπορρόφησιν ὑπ' αὐτοῦ πληροφοριῶν ἀπὸ δεύτερο χέρι». (M. Storm).

Συστηματικὴ δὲ μελέτη τῶν φυσικῶν περιοχῶν τῆς Κύπρου, ἀστικῶν ἢ ἀγροτικῶν, σὰν μέρος τοῦ σχολικοῦ ἀναλυτικοῦ προγράμματος, εἶναι ζωτικὸς παράγων εἰς τὴν δημιουργίαν κοινῆς συνειδήσεως ὅτι εἶναι ἐπάναγκες τόσον ὁ προγραμματισμὸς ὅσον καὶ ἡ διατήρησις καὶ ἀξιοποίησις τοῦ φυσικοῦ περιβάλλοντος.

Εἰς τὸ σημεῖον αὐτὸ θὰ ἤθελα νὰ τελειώσω μὲ ὅ,τι ὁ πρόεδρος τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου ἀνέφερεν εἰς τὴν εἰσαγωγικήν του ὁμιλίαν κατὰ τὴν ἱδρυτικὴν αὐτοῦ συνέλευσιν. «Αὐτὴν τὴν γνῶσιν, αὐτὸν τὸν ρεαλισμὸν τοῦ Κυπριακοῦ τοπίου ὀφείλομεν νὰ μεταλαμπαδεύσωμεν εἰς τοὺς συμπατριώτας μας. Ἂς ἀγαπήσουν τὴν Κύπρον ὄχι ἀπὸ τὴν ἰδέαν ὅτι εἶναι «τὸ νησὶ τῆς Ἀφροδίτης», ἀλλὰ ἀπὸ τὴν ἀφαντάστως μεγάλην γεωλογικήν, τοπογραφικήν, ἐδαφολογικὴν καὶ βλαστικὴν ποικιλίαν ποὺ ὑφίσταται εἰς τόσον μικρὰν ἔκτασιν γῆς, μοναδικὴν ἴσως εἰς τὸν κόσμον».

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THE ROLE OF CLASSICAL ARABS IN GEOGRAPHY*

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Man is a geographer by nature. Since his first appearance on the earth, man has been thinking of the natural phenomena around him. When man realized, while wandering about, the diversity of the things and the phenomena around him, his curiosity was aroused, and he became keen to learn. It is therefore difficult to say when the geographic thinking first began.

In ancient times, geographic thinking had always rested on three bases:

(1) Geographic discovery which led to the collection of many facts about the surface of the earth.

(2) The drawing of maps and geographic illustrations of well-known regions.

(3) Meditating on the collected material and data.

The early civilizations in the Near East were interested in various degrees in geographic discovery and map drawing. On the other hand, the Greeks had the credit of being the first to meditate on the geographic material. Hence, we consider them the founders of Geography. Nothing could be more significant than that the word "Geography" comes from a Greek origin, for it is composed of two Greek syllables, meaning literally: "description of the earth".

Moreover, the principal branches of Geography, were originated by the Greeks. Mathematical Geography was originated by Thalis in the sixth century, B.C., and was developed by Eratosthenes in the third century, B.C., when the roundness of the earth was fully proved, and the size of the earth was calculated by means of accurate measures, the longitudes and latitudes were calculated, and then attempts for drawing maps of the then known world were made.

On the other hand, Physical Geography has made slower progress. The writers meditated on the phenomena of the atmosphere, the tide, the occurrence of volcanoes, the formation of the deltas. Besides, one of the disciples of Aristotle wrote about the history of vegetation, and studied the relation between vegetation and the climate. This study was the first nucleus of Vegetation Geography.

The human aspects of Geography, however, did not receive considerable attention on the part of the Greeks, although they wrote many important remarks, such as the classification of the Ethiopian tribes according to their food. Moreover, the Greeks have the credit of making some studies that can be included in Regional Geography, whether concerning the study of some

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regions or the attempt to divide the known world into regions.

However, this development of Geography made by the Greeks soon declined at the time of the Romans who lacked the scientific attitude, and were more interested in trade, administration and war. The most notable geographers in the Roman Age were Strabo and Ptolemy. The fame of Strabo, who was of a Greek origin, rested on his recording of geographical data in seventeen volumes, which included a detailed description of the regions of the known world. Hence, Strabo is included among the Regional Geographers. On the other hand, Ptolemy was mainly interested in Mathematical Geography.

If we were to agree with other scholars in calling the Middle Ages in Europe — "The Dark Ages" —, such generalization would not hold true of the Arabs. The scholars consider the scientific revival in Europe, a true reflection of the history of civilization in the world. Yet, this is an extremely serious tendency, for it leads to the formation of a distorted opinion of the world civilization, for the history of the Arabs in the Middle Ages, is in fact the history of the world civilization itself.

The Arabs were able to maintain the progress of Geography and Cartography from the old ages to the Arab scientific resurrection during the Renaissance across the Middle Ages. This was achieved in spite of the fact that there was no direct connection between the Arab Geography and the modern European Geography. The role of the Arabs was not confined to the transmission, preservation and development of the Greek legacy, but they also inoculated the Greek thought with Indian thought. During the period between the seventh and twelfth centuries, we find that geographic knowledge was transmitted from Europe to the big scientific centres in Baghdad, Cordoba and Damascus. Therefore, the mathematical and astronomical revival that started in Rome, Oxford and Paris in the thirteenth century, was but a reflection of the Arab efforts in Geography in general, and in Cartography in particular.

The Arabs were right in believing that the Greek and Roman efforts reached a climax in the writings of Ptolemy. However, the Arabs did not follow Ptolemy slavishly, for the Arab travellers discussed many of his ideas and re-calculated the longitude and latitude and arrived at extremely accurate conclusions. The Arabs were by no means good conductors of civilization, for they undoubtedly cherished knowledge, and it was but natural that they should start where the others ended.

The efforts of the Arabs reached a climax in the writings of El Bitany and El Masoudi, for the former rejected many of the ideas of Ptolemy, although he tended to believe in Strabo's cosmography, and considered the Indian Sea an open one, on the contrary of Ptolemy, who believed that the African east coast was connected with Asian lands at the Malayan Peninsula. The Arab knowledge of the world was completed by

the writings of El Beiruni about the east and of El Edrisi on the west.

There are many factors which played a big role in the achievement of the Arab revival in Geographical sciences and the ensuing progress in Cartography. These factors can be summarized as follows :

(1) The interest of the Arabs in Geographical sciences stemmed from the wandering life they led. Hence, we notice Arab effects related to geographical questions before the scientific geography was born to the Arabs.

(2) The Arabs after the conquest became the masters of many areas that had been the cradles for civilization. Hence, conquest and expansion cleared the way for peace and civilization.

(3) The attempt of the central government to study the conditions of the countries which constituted the Arab empire, so that the system of government might be a sound one.

(4) The encouragement of the Moslem Caliphs of study and research. Notable among these was Caliph Al Mamoun, who gave the translators gold equal to the weight of their books.

(5) The rise of an honest and scientific competition among the Arab and Islamic cultural centres scattered from Andalusia to the borders of China.

(6) With the spread of Islam, The Arabic language predominated. Hence, the harmony between expression and the religious belief led to the growth and development of science.

(7) The prayer system of the Moslems requires care for the study of means of determining the "Kebla" (i.e. the point to which the Moslems turn while praying), from the various parts of the empire. Thus, the Islamic rites motivated the Arabs to be interested in astronomical studies.

(8) Islam has appreciated the troubles of travelling, and has thus relieved a Moslem of some of his religious obligations in praying and fasting. In this way, the Arabs were encouraged to undertake long scientific journeys.

(9) Pilgrimage had a strong effect on the development of Geographical knowledge for the Arabs, as the period of pilgrimage was a period of relief from the responsibilities of life, a period that provided for the Arabs wider opportunities for exchanging experience when they met with other Moslems of different races, who came from different physical and social environments. Besides, the return journey to Hegaz took a long time, in the light of the well-known slowness of the means of communication in the Middle Ages. Hence, that period was considered a free period for a great study tour.

(10) As the Arab empire grew in size, the need for forming a mailing machinery and extending a network of roads. This was the motive for the appearance of books which treated the question of "El Masalik Walmamalik" (i.e. The Routes and Kingdoms), by Ibn Khordazaba, Al Istakhry and Ibn Howkal.

(11) As the roads spread, trade flourished and the Arab merchants'

activities extended outside the empire itself. Many of these merchants recorded their observations in the foreign countries.

(12) The flourishing of trade had its effect in providing the Arabs with big fortunes, which encouraged the travellers to go out on their journeys.

(13) The fact that the Arabs knew some surveying instruments, facilitated their travelling about, for the Arabs had invented the astrolab. There are also evidences indicating that they had known the compass before the Chinese, who admitted that it had been invented by some foreigners, who were most likely the Moslem Arabs.

In fact, the Arab contribution to Geography, during the Middle Ages is considered an independent stage in the history of geographic thought and geographic knowledge. We can classify the Arab efforts in geography, into the following four areas:

1) Descriptive Geography
2) Astronomical and Mathematical Geography
3) The Progress of Concepts and Geographic Interpretations
4) Cartography.

First: Descriptive Geography:

The Arabs have left behind many writings, which are predominantly descriptive. For example, the abundance of literature on land and sea travels, the variety of books that give a complete guide for roads and distances, the detailed studies in Regional and Local Geography, as well as some historical topographic books, in which the study concentrated on single towns in different parts of the Arab and Islamic World, and which often supply us with much geographic information.

All through the Middle Ages, we have a long list of the names of Arab Geographers, who added fundamental contributions to the area of Descriptive Geography, by virtue of their valuable geographic writings. Suffice it to mention here some of these geographers that had obtained great fame in this respect.

El Khawarizmi is considered one of the Arab pioneers in Geography, for his book "Suwar El Ard" (i.e. the Pictures of the Earth), which he had written in the first half of the ninth century, is considered the first basis of Arab Geography. It is believed that there is a relation between this book and the well-known map, in the drawing of which, some scholars had co-operated to satisfy the desire of Caliph El Mamoun. Concerning the value of this book, Nallino said: "No European country could have provided something similar to it, at the beginning of her scientific activity."

Moreover, Al Istakhry is considered one of the Arab pioneers, who lived in the tenth century. Like the other geographers of the Arab School, he limits himself to a description of the Islamic World alone, dividing it into twenty regions. His writings included a description of the Arab Peninsula and the Arabian Sea together with the Indian Ocean, Egypt, Syria, Iraq, Iran, India, Al Maghreb and Andalusia. Al Istakhry mentions some information from each country, concerning the borders,

towns, distances and means of communication. He also gives various details about crops, trade, industry, as well as races. Most of the details he mentioned, concern the countries, he himself had visited.

Another Arab Geographer, well-known in the West, is El Makdisi, who was of a Palestinian origin, and was born in Jerusalem. He was one of the Geographers of the tenth century. He wrote his famous book "Ahsan Altakasim Fi Maarifat Al Akalim" (i.e. The Best Divisions For Knowing The Regions), when he was forty years old. Kramers, a contemporary scientist, is of the opinion that El Makdisi is the most original Arab Geographer, and his book one of the most valuable Arab geographic books. Besides, Sprenger considers him the greatest geographer ever known to humanity.

El Makdisi believes that geography had enjoyed very little attention from the previous scientists. Hence, he undertook to collect his scientific data from the various parts of the Islamic World, depending on his own travels and personal observations. Then he tried afterwards to formulate that material in a coherent and co-ordinated way to achieve a sound understanding of the life, customs and needs of different peoples.

El Makdisi divided the Islamic World into fourteen regions, for each of which he prepared separate maps in which he used relief symbols and terms. In his maps, he used red for the roads, yellow for the sands, green for salt sea, blue for the well-known rivers, and brown for the mountains.

El Makdisi also believed that the earth is almost round, and is divided by the Equator into two equal divisions. Its circumference is 360 degrees, and there are 90 degrees between the Equator and each of the Poles. He realized that the southern hemisphere is predominated by water, whereas land predominates in the northern hemisphere. Besides, when El Makdisi tackled the description of the regions, he spoke in detail about various aspects of Physical and Human Geography.

On the other hand, El Beiruni occupies a unique position among the scientists of this school, for he enjoys a keen geographic sense, and his findings deserve to be highly appreciated. His book about India is a noteworthy production in the field of Regional Geography.

El Beiruni had penetrating opinions in the physical geography of India. We may mention his geological interpretation of the Hindustan Plain, for he said that in place of this plain there had been sea bottom, then deposits of silt had accumulated in that sea until the plain was formed. Another remark of his, was the connection between the Himalayan range of mountains and that of the Alps. We notice also that he had distinguished between the sea gulf and the river mouth. El Beiruni also understood clearly the phenomenon of the tide, and its relationship with the phases of the moon.

As regards the human aspect, El Beiruni showed in detail the main roads branching in various directions. He spoke of commercial activity in many Indian towns. We also see him

discussing the forbidding of eating beef, from the social point of view. He pointed out how this kind of meat might be indigestible in hot countries, such as India, besides the fact that most of the land of the country is agricultural, thus rendering the slaughter of cattle detrimental to the economic life.

On the other hand, the most notable Arab travellers that made long journeys, which they recorded in geographic books, are Ibn Gobeir and Ibn Batuta.

Ibn Gobeir descended from an old Arab family that lived in Andalusia. At an early age, he made a pilgrimage, leaving Grenada to Egypt, via the Mediterranean, passing by Ceuta, and travelled along the coasts of Sardinia and Sicily until he came to Alexandria, from which he travelled on the Nile to Cairo, then he went to Upper Egypt and arrived at the port of Aizab, which was the usual port on the Red Sea for the pilgrims. Then, he landed at Gedda and joined a caravan to Mecca, where he lived for about half a year. Then, he passed by Medina on his way to kufa, and visited Baghdad, Samra, Mosul, Aleppo, then to Damascus, where he spent some months before leaving Syria to Sicily, where he landed after a long and troublesome journey. Thence, he returned to Grenada, after an absence of more than two years.

Not long after, Ibn Gobeir went out on a second journey that took two years. Then he made a third journey to the East, when he was an old man. He never returned to Andalusia, but spent more than ten years wandering among Mecca, Jerusalem and Cairo. He was teaching and writing literature until he died in Alexandria.

Ibn Gobeir had recorded his first journey only in a book taking the form of a diary, which was of great benefit to the geographers and historians. Ibn Gobeir's book is very much appreciated both in the East and the West. In fact, the writings of Ibn Gobeir throw an important light on the geographic conditions as well as on the cultural and commercial activity in the countries of the Mediterranean area.

If Ibn Gobeir was the most famous Arab traveller in the twelfth century, Ibn Batuta is considered the last great Arab traveller whose journeys extended into the various parts of the Islamic World, for he belonged to the fourteenth century.

It can safely be said that Ibn Batuta had been the greatest traveller until his time, for the distance he had covered in his travels, is estimated at 175,000 miles, a figure never exceeded before. Presumably, no one had exceeded it before the Age of Steam.

Ibn Batuta started his journeys from his birth-place at Tangiers in North Africa, when he was twenty two years old. All his journeys covered about thirty years, after which he returned finally to Fez in Morocco, where he dictated an account of his journeys to Ibn Gozzi, and this account came to be known as the famous "Travels of Ibn Batuta".

In his first journey, Ibn Batuta wandered about in Algeria, Tunisia, Egypt, Palestine & Syria from which he went to Mecca for pilgrimage. Then he went to visit Iraq, Chiraz and

Mesopotamia, and at last returned to Mecca for the second time for pilgrimage, and he stayed at Hegaz for three years. Then he left Hegaz via Gedda and arrived by sea in Yemen, and visited Aden, from which he sailed to Mombassa, on the eastern African coast. He then returned to Oman and then to Hegaz, for the third time.

After his third pilgrimage, he went to Cairo, Palestine, Syria and then to Asia Minor, where he wandered in Anatolia, then to Crimea across the Black Sea. He then wandered in Kuban until he arrived at the mouth of the Volga, where lies the town of Astrakhan, then to Khoirasan. Afterwards, he went to Afghanistan, and then into India, where he wandered until he arrived at Delhi.

After staying in India for some years, he went to Maldive Islands, then to Ceylon. He then went to the island of Somatra, Malaya, Cambodia, then to Pekin in China. At last, he returned to Calicut. He then sailed to Muscat, Persia, Iraq, Syria, Palestine, Egypt and then to Hegaz again. He then returned home via Egypt, Libya, Tunisia and Sardinia.

If most of what had been written about the journey of Ibn Batuta was predominantly of a literary nature, and was not free from exaggeration, yet it has supplied us with many authentic geographic facts, which he obtained by himself without referring to previous writings. We may refer, for example, to his excellent description of the various small coral islands in the Maldive group. He recognizes the reality of snails, and states that they are but animal shells. He also comments on the abundance of fish, and the growing of rice on those coral islands. He also speaks of the strange dresses, customs and character, he had seen among the inhabitants of those islands.

In this way, Ibn Batuta goes on describing the African eastern coast and its agricultural crops.

Ibn Batuta is considered a rare type of travellers for the Arabs, a type that aims at the journey for its own sake and sets out into the unknown in response to an irresistible feeling, and a sweeping desire to learn about the countries and the peoples. He did not collect his data from the pages of books, but through his personal experience and through characters he came to know during his journeys. What he has written, can be considered a fund of rich material in the field of Historical Geography.

Second: Astronomical and Mathematical Geography

The efforts of the Arabs in the astronomical and mathematical aspect of Geography were part of that scientific movement that started in the Abbasite Age, on a wide scale. The scientific era of the Arab civilization started when El Mamoun ascended the throne. He attempted to collect the books and scientific material existing at that time in different countries, whatever the expenses might be. He encouraged the translation and writing of various geographic books. The Arab Geographers were very much influenced by Ptolemy's book "Geographia". Since the latter tended to be mathematical

and astronomical, his followers imitated him. We can distinguish, in this respect, four main Arab schools: in Baghdad, Egypt, North Africa and Andalusia.

The collection of wide scientific material and the production of important researches in astronomical, and mathematical aspects, were associated with the establishment of the most up-to-date observatories at that time, and their equipment with the best apparatus.

The most famous observatory at the time of El Mamoun was near Palmyra. There was also another observatory on the Kassiun mountain, north of Damascus. A group of astronomers worked in these observatories.

Scientific researches and the measurement and observation processes would not have been possible without the use of accurate instruments. Some of these instruments had been previously invented by the Greeks, but were then very much improved.

The instrument that was most widely used by the Arab geographers and astronomers, was the astrolab, in its various forms. It has a long history among the astronomical and mathematical instruments. It was devoted to the observation of the stars, and the measurement of the height of the sun and the moon. Besides, it had other uses in surveying, such as measuring the distances indirectly, and calculating the heights of buldings and the depths of the wells, the diameter of which could be measured.

Moreover, the Arabs have achieved progress in measuring and determining the latitudes and longitudes, the shape of the earth as well as measuring its size and studying its movements.

Third: Geographic Interpretations

The efforts of the Arabs in Geography were not confined to the fields of Descriptive and Mathematical Geography, but they were also able to achieve progress in Geographic Interpretations and Geographic Concepts, whether in physical phenomena or in human phenomena.

Among the most important and far-reaching scientific books in the history of Arab civilization is the contribution of Ikhwan El Safa, who were more of an academy or a group of great scientists, who practised their activity in Basra, during the tenth century.

Ikhwan El Safa have left behind a collection of studies and researches generally including the various aspects of knowledge existing at that time. It included, among other things, various references to the prevailing geographic concepts and ideas, explained in a simplified way to be understood by all.

For example, we read in their writings, an explanation of the eclipses of the sun and moon, as well as the rotation of the seasons, according to the apparent movement of the sun. They imagined the earth to be a round body surrounded by an atmosphere. It was also mentioned in their writings that the sea water is changed into vapour that rises into the air to form clouds driven by the winds to the mountain tops, where they are condensed, and drop as rain. In this way, most of this water goes to rivers. Besides the study of the phenomena of the atmosphere,

their studies also included a part dealing with the structure and formation of metals, in which they explained the geological processes, with special attention to the effect of erosion. They also tackled the phenomenon and effect of earthquakes and volcanoes. Moreover, Ikhwan El Safa did not neglect the study of vegetation and animal life. They also discussed the major geological processes that led to the formation of continents and oceans, or land and water.

On the other hand, the "Introduction of Ibn Khaldoun" is considered the real beginning of human geography in general, and the social geography in particular. In his Introduction, Ibn Khaldoun tried to trace the effect of the environment on human beings and their activities and ways of life in many countries. Ibn Khaldoun tackled this subject in a way similar to that he was a fourteenth century thinker. Sprenger rightfully states that Ibn Khaldoun was not satisfied only with writing history on a basis of sound criticism and right imagination, but he also linked it with studies related to Geography and races.

Ibn Khaldoun is considered at the vanguard of the researchers in his preliminary classification of ways of life, for he distinguished between the nomadic wandering life in the desert, and the settled urban life in the town. He also adds to his study many remarks about the nature of the environment in the desert, and the geographic effects leading to the rise and development of urbanism. Moreover, Ibn Khaldoun studied the development of occupations, and the progress of the export and import trade. He also had his contemplations about the distinguishing features of the flourishing agriculture of high productivity in Andalusia. The importance of Ibn Khaldoun's Introduction lies in the remarks scattered here and there in its pages, and within his social studies. In this way, the Introduction appears to be a type of social geography along the modern approach.

Four: Cartography

El Khawarizmi is considered one of the first Arab cartographers, for he wrote his book "Surat El Ard" (i.e. The Picture of the Earth), illustrated with maps. Besides, El Khawarizmi made a map of the Nile, and his name is associated with the collective production of the well-known map of the world, in the production of which, not less than seventy Arab scientists co-operated.

Following this, is a stage which we may call: the Balkhi School, in whose books we find many drawings and maps, in addition to the collection of maps which he made, and which formed an Atlas, known as the Balkhi Atlas or the Atlas of Islam.

The most famous Arab cartographer at that advanced period was El Masoudi, who was born in Baghdad, and then spent the years of his youth in travelling, for he visited India, Ceylon, the Chinese Sea, Asia Minor, Syria, Palestine, Zanzibar, Madagascar, Oman, and then settled down in Estakhir. In the last years of his life, he visited Egypt, where he died in Old Cairo. El Masoudi

accomplished a wide reading of the geographic writings available to him at that time. He recorded all the experiences he had acquired in his famous book "Meroug Al Dahab and Maaden Al Gawhar". As regards Cartography, his map is considered one of the most accurate Arab maps, that appeared to outline the world that was known at that time. He believed in the roundness of the earth, and he expressed his belief in his map, which included two perpendicular lines: the Equator, passing through Ceylon, and a main longitude passing through Zanzibar. Besides the known world, he also believed in the existence of two blocks of land: one in the South Seas, and another on the other side of the known world, in order to help maintain the earth's isostasy.

At that time, another kind of Cartography, nearer to Cartogram, came into being. It was a unique type for the maps of that age. It was the map of the world by Ibn Hawkal. In drawing this map, Ibn Hawkal depended on the book of Al Istakhry. We notice, when studying this map, that the coasts appear either in the form of straight lines, or circular arcs. The internal islands and seas, such as the Caspian Sea and the Oral, look like complete circles. The whole map is drawn in a graphical way.

The most famous of all Arab Cartographers is El Edrisi, who was educated at Cordoba, and then went to Sicily, where he lived. King Roger II lavished money on him. Consequently, El Edrisi made him a silver globe, on which he wrote in Arabic all he knew about different countries. But this globe has been lost. El Edrisi recorded all he had seen in his book "Nozhat El Moshtak in Akhbar El Afak". This book was of great help to the Western Geographers, in widening their knowledge, and it aided the Portugese discoverers in the fifteenth century in exploring the unknown places. El Edrisi's book contained a map of the known world. He also made an oblong map of silver, about 14 feet long, 10 feet wide, and about 400 pounds in weight. It is, thus, almost the biggest old map in the world.

Colours have been used in El Edrisi's maps. Seas appeared drawn in blue, while green was used for rivers, and red & brown were used for mountains. Towns were drawn in golden circles.

Despite some mistakes in calculating distances and bearings in El Edrisi's map, we should not lose sight of the fact that El Edrisi had made his book and his map in the first half of the twelfth century. El Edrisi, in fact, represented the link between the Arab thought and the Western thought. No wonder then, that El Edrisi was called "Strabo of the Arabs".

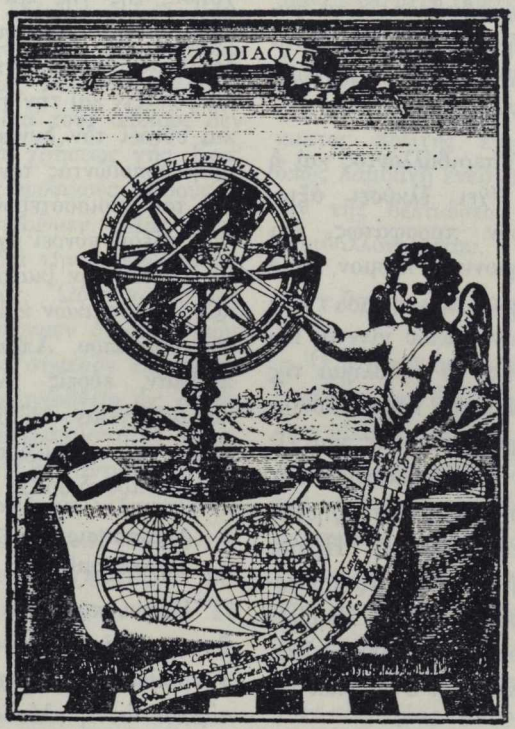
In spite of everything, the Arab maps of the places they had drawn, were better than those of Ptolemy. Moreover, they were the first to use maps in teaching geography in schools.

* * *

To sum up, the Arabs were able to maintain the progress of Geography, and the development of geographic thought, throughout the Middle Ages. They do not only have the credit of

preserving the Greek legacy, but they have also contributed fundamental and original additions to geographic thought, thus paving the way for the revival witnessed by Geography in Europe at the beginning of modern times.

It is unreasonable to consider modern Geography a sudden product of the nineteenth century. It sounds more reasonable to say that its roots go deep into the past, suck the sap of the production of the ancient Greek Geographers, and branch to reach the valuable legacy left behind by the Arab Geographers.



ΦΥΣΙΚΟΝ ΠΕΡΙΒΑΛΛΟΝ ΚΑΙ ΑΝΑΠΤΥΞΙΣ

Ὑπὸ ΚΥΡΙΑΚΟΥ Α. ΔΗΜΗΤΡΙΑΔΗ B.A. (Hons) Geog., M.A. (Urban and Regional Planning).

1. Τὸ περιβάλλον.

Εἰς τὸν αἰῶνα μας, ὁ ἄνθρωπος κατέχει τὴν ἱκανότητα νὰ προσαρμόζῃ, νὰ ἀλλάζῃ ἢ νὰ ἐξουσιάζῃ τὸ φυσικὸν αὐτοῦ περιβάλλον εἰς βαθμὸν ἄνευ προηγουμένου. Κατὰ τὸν G. Marsh (1964), ἡ ἐντελῶς ἀπαιδαγώγητος ἀνθρωπότης ἐπεμβαίνει σχετικῶς εἰς πολὺ μικρὸν βαθμὸν εἰς τὰ φυσικὰ φαινόμενα καὶ ἡ καταστρεπτικὴ ἐνέργεια τοῦ ἀνθρώπου αὐξάνεται ἀναλόγως τοῦ πολιτιστικοῦ του ἐπιπέδου.

Ἡ διατήρησις τοῦ περιβάλλοντος καὶ ἡ ὀρθὴ χρῆσις του, ἔχει ἑλκύσει ἀξιοσημείωτον ἐνδιαφέρον προσφάτως, ὄχι μόνον εἰς τὸν ἐπιστημονικὸν κόσμον, ἀλλὰ καὶ εἰς τὴν πλειοψηφίαν τοῦ κοινοῦ. Καθὼς ἡ ἐπιρροὴ τοῦ ἀνθρώπου γίνεται περισσότερον καταφανής, τὸ πρόβλημα τῆς καταστροφῆς τοῦ φυσικοῦ περιβάλλοντος ὁδηγεῖ πρὸς τὴν ἀφύπνησιν μας καὶ εἰς τὴν ἐνεργὸν κίνησιν τῆς διασώσεώς του. Τὸ 1970 διεκηρύχθη Ἔτος Διατηρήσεως τοῦ Εὐρωπαϊκοῦ Περιβάλλοντος. Ἤρχισε διὰ τῆς Συνδιασκέψεως τοῦ Στρασβούργου καὶ δεκαεπτὰ χῶρες-μέλη τοῦ Συμβουλίου Εὐρώπης ἔλαβον μέρος, συμπεριλαμβανομένης καὶ τῆς Κύπρου. Οἱ σκοποί του ἦσαν κυρίως δύο:

(α) Ἡ χάραξις κοινῆς πολιτικῆς ὡς πρὸς τὴν διαφύλαξιν καὶ βελτίωσιν τοῦ περιβάλλοντος, καὶ

(β) Ἡ παροχὴ πληροφοριῶν καὶ ἐκπαιδεύσεως, οὕτως ὥστε ὅλαι αἱ χῶραι νὰ ἀντιληφθῶσι πλήρως τὰ προβλήματα καὶ ἐνεργῶς ὑποστηρίξωσι κοινὰ μέτρα πρὸς ἐπίλυσιν τούτων.

Ἡ σημασία τῆς διατηρήσεως, ἑρμηνεύεται ὡς ἡ φροντὶς, ἡ μέριμνα, καὶ ἡ ὀρθὴ χρῆσις τῆς γῆς καὶ τοῦ φυτοζωϊκοῦ κόσμου, κατόπιν πλήρους καθοδηγήσεως ὑπὸ ἐπιστημονικῆς ἐρεύνης. Ἀπορρίπτει τὴν διαφύλαξιν καὶ τὴν στατικὴν αὐτῆς ἔννοιαν καὶ εὐνοεῖ τὸν δυναμισμὸν, τὴν ἀλλαγήν, χρησιμοποιώντας τὸν κάθε φυσικὸν πόρον διὰ τοῦ περισσότερον καταλλήλου τρόπου. Ἐπὶ πλέον, εὐνοεῖ σχέδια ἀναπτύξεως των μὲ σκοπὸν τὴν ἱκανοποίησιν τῶν αἰσθητικῶν, οἰκονομικῶν καὶ κοινωνικῶν ἀναγκῶν τοῦ ἀνθρώπου. Ἀπαιτεῖ παραλλήλως προσπάθειαν, εὐρεῖς πνευματικοὺς ὁρίζοντας καὶ ἀρχηγείαν, ἐφ' ὅσον ὁ τρόπος διὰ τοῦ ὁποίου μεταχειριζόμεθα τὸ φυσικὸν περιβάλλον προσδιορίζει τὸ μέλλον.

2. Διατήρησις τοῦ περιβάλλοντος καὶ Πολεοδομία.

Ἔχουν παρέλθει οἱ καιροὶ ὅτε ὁ ἄνθρωπος δὲν ἔπαιζεν σημαντικὸν ρόλον εἰς τὴν ἀλλαγὴν τῆς φύσεως. Σήμερον ἐμφανίζεται ὡς ἡ πλέον καταστρεπτικὴ δύναμις. Τὸ περιβάλλον συνεχῶς μετατρεπεται. Δυνάμεθα ὅμως νὰ τὸ μετατρέψωμεν σκοπίμως διὰ περισσοτέραν καταλληλότητα. Δι' αὐτὸ δέον ὅπως ἀναγνωρίσωμεν ὅτι κάθε περιοχὴ κατέχει μίαν ἰδανικήν,

οὕτως εἰπεῖν, καταλληλότητα καὶ χρῆσιν. Τὸ περιβάλλον, τὸ ὁποῖον γνωρίζομεν ἢ μᾶλλον ἀντιλαμβανόμεθα εἶναι ἐκτὸς τοῦ ὀπτικοῦ μας ὁρίζοντος.

Συνήθως, ἡ πολεοδομικὴ πολιτικὴ εἰς ἀγνὰ καὶ πολύτιμα ἀγροτικὰ καὶ ἐξοχικὰ τοπία, εἶναι κυρίως ἡ διαφύλαξις τοῦ ὑφισταμένου, πρᾶγμα τὸ ὁποῖον ἀποκλείει νέας ἀκαταλλήλους χρήσεις. Τοὐναντίον, ἂν καὶ ἡ διαφύλαξις εἶναι λογικὸν ἐπακόλουθον, σπανίως εἶναι πρακτικῶς ἱκανοποιητική.

Ἡ ἐξοχὴ εἶναι μία ζῶσα ὀντότης, ἡ ὁποία δὲν εἶναι δυνατὸν νὰ ὑπάρχη ἁπλῶς ὡς μουσεῖον, ἡ ἀρνητικὴ δὲ πολιτικὴ τῆς μὴ ἐπεμβάσεως εἶναι ἀδύνατον νὰ ἐπιτύχη. Ἄνκαι ὑπάρχει ἐπαρκὴς γῆ, σπαταλοῦμεν αὐτὴν ἀσώτως καὶ ὑπερβολικῶς, μέσῳ νέων τρόπων, διὰ τοὺς ὁποίους δὲν κατέχομεν τὰ πρότυπα χρήσεως γῆς. Κατ' οὐσίαν δὲν εἶναι εἰς φυσικοὺς πόρους ἢ εἰς γνώσεις, ὅπου ὑστερῶμεν. Μᾶς ἐλλείπει ὅμως τὸ ὅραμα διὰ τὴν ἐποικοδομητικὴν των ἐφαρμογήν. Ὥστε χρέος μας εἶναι ὅπως προσχεδιάζωμεν δημιουργικῶς τὸ μέλλον. Δυστυχῶς σήμερον «πρόοδος» καὶ «ἀνάπτυξις» παρεξηγοῦνται ὡς συνώνυμοι. Δέον ὅπως ἡ ἀδικαιολόγητος ἔμφασις εἰς τὴν ἀνάπτυξιν ἀντικατασταθῆ ὑπὸ τῆς ἰσοζυγισμένης ἀλληλοσχετίσεως τοῦ πληθυσμοῦ καὶ τῶν φυσικῶν πόρων.

Αἱ οἰκονομικαὶ πτυχαὶ σχηματίζουν κύριον μέρος τῆς φυσικῆς ἐξισώσεως. Τὸ ὑπόλοιπον εἶναι ἡ δυνατότης, ἡ χωρητικότης τοῦ περιβάλλοντος ὅπως ἱκανοποιῆ τὰς ἀπαιτήσεις τοῦ ἀνθρώπου, ἄνευ ἀνιάτων ἀπωλειῶν. Ἑπομένως, ἑκάστη προσχεδιασμένη ἀξιοποίησις δέον ὅπως βασίζεται ἐπὶ τῆς ὀρθολογιστικῆς χρήσεως τοῦ φυσικοῦ περιβάλλοντος καὶ τῶν φυσικῶν πόρων.

Ἡ πολεοδομία εἶναι δυνατὸν ὅπως θεωρηθῆ ἡ πορεία, ἡ πολιτικὴ καὶ ἡ φιλοσοφία ἐπὶ τῆς ὁποίας τοὐλάχιστον ἡ φυσικὴ τακτοποίησις τοῦ ἀνθρώπου πρέπει νὰ βασίζεται. Ἐφ' ὅσον ἀλλάζει τὸ περιβάλλον, ὁπωσδήποτε καὶ ἀναποφεύκτως ἀλλάζει καὶ ὁ ἄνθρωπος. Ἡ Πολεοδομία ὡς φιλοσοφία περιλαμβάνει τὴν ἠθολογίαν καὶ τὸ χρέος μας πρὸς τὰς μεταγενεστέρας γενεάς, αἱ ὁποῖαι θὰ εἶναι οἱ κληρονόμοι εἰς τὸ μέλλον. Ἐξ ἄλλου, ὅλαι αἱ πτυχαὶ τῆς πολεοδομίας ἀναγνωρίζουν ὅτι τὸ περιβάλλον εἶναι μία ὀντότης ἀποτελουμένη ἀπὸ φυσικοὺς παράγοντας καὶ τὸν ἄνθρωπον, ἔχει δὲ χρέος ὅπως δημιουργῆ τὴν σύνθεσιν των, καὶ καθοδηγῆ τὴν ἀλλαγὴν πρὸς ἐπίτευξιν τῶν κοινωνικῶν ἐπιθυμιῶν. Ἄλλη ἀρχὴ εἶναι ἐπίσης ἡ ὁλοκληρότης, δηλαδὴ ἡ τέλεια ἁρμονία τῶν ἐνεργειῶν τῆς φύσεως μετὰ τῶν τοῦ ἀνθρώπου. Ἕκαστος πολίτης ἔχει ἰδανικὸν καθῆκον ὅπως λαμβάνη ἐνεργὸν μέρος πρὸς ἐπίτευξιν τῆς βελτιώσεως τῆς ποιότητος τοῦ περιβάλλοντος του.

3. Τουρισμὸς καὶ ἀξιοποίησις

Ὁ Τουρισμὸς σχετίζεται μὲ κίνησιν καὶ ἐπιφέρει καὶ ἄλλα ὀφέλη ἐκτὸς τῶν ἀμέσως οἰκονομικῶν, ὡς εἶναι ἡ συνεισφορὰ πρὸς τὸ χρηματικὸν ἰσοζύγιον, ἡ αὔξησις τοῦ ἐθνικοῦ εἰσοδήματος καὶ ἡ παροχὴ ἀπασχολήσεως. Ὑπάρχουν ἐπὶ πλέον τὰ κοινωνικὰ ὀφέλη, προερχόμενα ἐκ τῆς ἐπαφῆς μετὰ ξένων περιηγητῶν καὶ ἀλλοδαπῶν πολιτισμῶν. Ἡ σπουδαιότης τοῦ τουρισμοῦ, προσέτι, ἔγκειται εἰς τὴν δημιουργίαν εὐημερίας ἀπορρεούσης ἐκ τῶν νέων μέσων συγκοινωνίας καὶ μεταφορᾶς, στεγάσεως καὶ ἄλλων ὑπηρεσιῶν καταναλώσεως.

Εἰς Κύπρον εἶναι ἀπαραίτητος ἡ προτεραιότης διὰ τὴν περαιτέρω ἀνάπτυξιν τοῦ

τουρισμοῦ, ὡς μέσου ἑλκύοντος ξένον συνάλλαγμα, ὡς καὶ ἡ προώθησις νέων βιομηχανιῶν καὶ ὑπηρεσιῶν εἰς ὡρισμένας περιοχάς. Ἐὰν ὅμως τὰ φυσικὰ προσόντα τῆς νήσου μας, καὶ τὰ ἄλλα τουριστικὰ αὐτῆς κεφάλαια, δὲν διατηρηθοῦν καὶ ἀξιοποιηθοῦν συμφώνως πολεοδομικῶν ἢ τουριστικῶν σχεδίων, αἱ δυνητικαὶ μακρο-οἰκονομικαὶ ὠφέλειαι προερχόμεναι ἐκ τῆς τουριστικῆς βιομηχανίας δυνατὸν νὰ μειωθοῦν σημαντικῶς. Ἐπαρκὴς σπουδαιότης εἶναι ἐπάναγκες ὅπως δοθῇ εἰς τὸν ὁρισμὸν ὅλων τῶν τουριστικῶν ἕλξεων, ὅπως αἱ πολιτιστικαί, μορφωτικαί, παραδοσιακαί, θεαματικαὶ καὶ κλιματικαί, αἱ ὁποῖαι δέον ὅπως ἀξιοποιηθῶσι βαθμηδὸν καθ' ὅλην τὴν νῆσον, οὕτως ὥστε αἱ προκύπτουσαι ὠφέλειαι νὰ κατανέμωνται ἐν ἰσορροπίᾳ εἰς ὁλόκληρον τὴν Νῆσον.

Ἐπακόλουθον τῆς ταχείας οἰκονομικῆς ἀναπτύξεως, τοῦ ἐκβιομηχανισμοῦ καὶ ἐξαστισμοῦ εἶναι ἡ ραγδαία αὔξησις τοῦ ἐλευθέρου χρόνου, τοῦ βιωτικοῦ ἐπιπέδου καὶ τῆς εὐκινησίας. Παραλλήλως, αἱ ἀλλαγαὶ ταῦται ἔχουν αὐξήσει σημαντικῶς τὰς ψυχαγωγικὰς ἀπαιτήσεις καὶ ἐπομένως τὴν πίεσιν ἐπὶ τοῦ φυσικοῦ περιβάλλοντος. Ἰδιαιτέρως σοβαρὸν εἶναι τὸ πρόβλημα τῆς ἱκανοποιήσεως τῶν αὐξανομένων ἀπαιτήσεων διὰ μαζικὴν ἀναψυχήν, πρᾶγμα τὸ ὁποῖον ἔχει καταστρέψει ἢ θέσει εἰς κίνδυνον τὸ περιβάλλον πολλῶν τοπίων. Ἡ κυρία αἰτία εἶναι ἡ ἀπρογραμμάτιστος καὶ ἀπροσχεδίαστος ἐπιτρεπομένη ἀνάπτυξις. Ἐξ ἄλλου, αἱ μεγαλύτεραι συνέπειαι τοῦ αὐξηθέντος χρόνου ἀναψυχῆς εἶναι ἡ κίνησις τοῦ ἀστικοῦ πληθυσμοῦ εἰς τὰς ἐξοχικὰς περιοχάς, ἡ ὁποία προξενεῖ ζημίας λόγῳ ἀμαθείας καὶ ἀσεβείας. Ἡ Παιδεία, ὁπωσδήποτε, θὰ ἐλαττώσῃ τὸ κακόν, διὰ τῆς ἐνημερώσεως καὶ ἀποκτήσεως τῆς συνειδήσεως εἰς τὴν ἐκτίμησιν τῶν φυσικῶν καλλονῶν μας.

Περιοχαὶ καὶ τοπία τὰ ὁποῖα ἔχουν ἀρκετὴν φυσικὴν ἢ ἱστορικὴν σπουδαιότητα, δέον ὅπως προσδιορισθοῦν ὡς προστατευόμεναι ζῶναι, ὅπου θὰ ἀπαγορεύεται ἡ ἀνάπτυξις εἰς πλεῖστον βαθμόν. Αἱ δὲ γραμμαὶ ἀναπτύξεως δέον ὅπως ἀκολουθήσουν πολύτροπον καὶ πολύμορφον τρόπον. Τουριστικὰ σχέδια δὲν πρέπει νὰ γίνωνται ἀπομεμονωμένως, ἀλλὰ νὰ ὁλοκληρώνωνται καὶ νὰ σχετίζωνται γεωγραφικῶς καὶ συλληπτικῶς — ἐν ἄλλοις τὰ τοπικὰ σχέδια ἀναπτύξεως νὰ συντονίζωνται μετὰ τῶν περιφερειακῶν καὶ ἐθνικῶν σχεδίων, ἐνῶ τὰ τουριστικὰ σχέδια μετὰ τῶν φυσικῶν, κοινωνικῶν καὶ οἰκονομικῶν πτυχῶν.

Ἐφ' ὅσον ὁ ἄνθρωπος ἐξασκεῖ ἐπιρροὴν ἐπὶ τῆς φύσεως ἁπλῶς διὰ τῆς ἐπαφῆς του, ἡ καταφυγὴ εἰς τὴν διατήρησιν της δέον ὅπως καταστῇ ἀναγκαία. Εἰδικὴ προσοχὴ πρέπει νὰ δοθῇ εἰς τὴν ἀντίληψιν τοῦ ὡραίου καὶ τῆς αἰσθητικῆς ποιότητος. Ἀκολούθως ὁ σεβασμὸς τοῦ ἀνθρώπου πρὸς τὴν φύσιν καὶ τὰ ἀρχιτεκτονικὰ ἔργα, τὰ ὁποῖα εἶναι πατροπαράδοτος κληρονομιὰ δὲν εἶναι μόνον στόχος, ἀλλὰ καὶ ἀπαίτησις τοῦ πολιτισμοῦ μας. Ἡ ἐπίτευξις τούτων ἐξαρτᾶται ἐκ τῆς συνεχοῦς συνεργασίας καὶ διαλόγου μεταξὺ τῶν ἐθνικῶν, περιφερειακῶν καὶ τοπικῶν ἐπιπέδων.

Τὸ θέμα εἶναι λοιπὸν ἡ προμάντευσις — εἰς μίαν ἐποχὴν ἀναψυχῆς — τῶν γραμμῶν αἱ ὁποῖαι πρέπει νὰ χαραχθοῦν μεταξὺ τῆς κατακτήσεως τοῦ φυσικοῦ περιβάλλοντος καὶ τῆς διατηρήσεως του — δηλαδὴ ἡ συνεχὴς διατήρησις του καὶ ἡ ἐπιμονὴ τῆς προγραμματισμένης οἰκονομίας.

Ἡ διατήρησις τοῦ Περιβάλλοντος ἐν Κύπρῳ.

Ὁ αὐξανόμενος ρυθμὸς ἀστικοποιήσεως καὶ αἱ ἄλλαι πιέσεις ἐπὶ τοῦ Κυπριακοῦ περιβάλλοντος δι' ἀνάπτυξιν, δημιουργοῦν κίνδυνον, ὅστις δὲν δύναται νὰ ἀγνοηθῇ. Τὸ Συμβούλιον Διατηρήσεως τοῦ Κυπριακοῦ Περιβάλλοντος ἔχει χαράξει τὰς ἀρχικὰς γραμμὰς διὰ τὴν ἀπαιτουμένην δρᾶσιν. Ὅμως ἡ περὶ πολεοδομίας νομοθεσία ἡ ὁποία ἔχει καταρτισθῇ ἐδῶ καὶ τρία χρόνια, παραμένει, δυστυχῶς, νομοσχέδιον καὶ καθυστερεῖται ἀδικαιολογήτως. Ἐν τῷ μεταξὺ ἡ ἐγκαθίδρυσις τουριστικῶν ὑπηρεσιῶν δὲν ἐλέγχεται, ἢ περιορίζεται, καὶ μὲ τὴν αὔξησιν τοῦ τουριστικοῦ ρεύματος κατὰ τὴν τελευταίαν δεκαετίαν, αἱ ἀπρογραμμάτιστοι τουριστικαὶ ἐγκαταστάσεις ἰδιαιτέρως κατὰ μῆκος τῶν ἀκτῶν μας — καφενεῖα, περίπτερα, μεμονωμέναι μονάδες ξενοδοχείων — ἔχουν δημιουργήσει μίαν ἀκαλαίσθητον παραφωνίαν. Δὲν εἶναι μόνον ἡ ἐλλειπὴς συνοχὴ τῆς ἀναπτύξεως, ἀλλὰ καὶ ἡ χαμηλὴ ποιότης αὕτης χωρὶς αἰσθητικὰς ἀρχάς. Ἡ βασικὴ ἀνάγκη προστασίας μερικῶν περιοχῶν μὲ ἰδιάζοντα χαρακτῆρα δὲν ἔχει διεκπεραιωθῇ ἱκανοποιητικῶς.

Αἱ ἀκταί μας, ὁ μέγιστος μαγνήτης διὰ τὸν τουρισμόν, παραμένουν τρωταὶ εἰς τὴν πίεσιν, ἡ ὁποία ἐξασκεῖται διαρκῶς ἐπ' αὐτῶν ὑπὸ τὴν σύγχρονον τουριστικὴν ἀνάπτυξιν. Ὁ λόγος διὰ τὴν παροῦσαν κατάχρησιν τοῦ περιβάλλοντος εἶναι κυρίως τὸ ἀτομικὸν συμφέρον. Λόγῳ ἀπουσίας τῶν ἀναγκαίων νομικῶν καὶ πολεοδομικῶν μέτρων, μέχρι τελευταίως, ἡ ἀνάπτυξις ἦτο τυχαία, σποραδικὴ καὶ συμπτωματικὴ, μὲ ἀποτέλεσμα τὰς μεμονωμένας μονάδας, τὴν ἐξάπλωσιν τοῦ οἰκισμοῦ, τὰς ἀντιφατικὰς χρήσεις γῆς, τὴν ἀπώλειαν τοῦ αἰσθητικοῦ καὶ τοῦ ὡραίου καὶ τὰς πληθωριστικὰς καὶ ἐξογκωμένας τιμὰς γῆς.

Ἡ ἐπείγουσα ἀνάγκη δράσεως παραμένει ἡ ἔμφασις τοῦ προβλήματος, τὸ κοινὸν ὅμως, δυστυχῶς, ἀγνοεῖ τοὺς κινδύνους ἀπροσχεδιάστου ἀναπτύξεως. Ἡ διαφώτισις τοῦ κοινοῦ περὶ πολεοδομικῶν καὶ διατηρητικῶν ἀρχῶν, ἴσως νὰ εἶναι εἷς τρόπος ἐπιλύσεως τοῦ μεγάλου αὐτοῦ προβλήματος.

LAND TENURE IN CYPRUS

(A POWERFUL TYPOLOGICAL CRITERION)

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Cyprus, the biggest island in the Eastern Mediterranean, covers an area of 3,572 sq. miles (9,251 sq. Km). The variety of landscape over this surface is tremendously large and probably unique in the whole world over similar size of land. Superimposed upon this landscape which is mainly the product of physical factors, lies a tremendous variety of land tenure [1] types, chiefly the product of the island's long and tempestuous history as well as the result of existing legislations. In this paper an attempt will be made to describe and analyse briefly the existing land tenure structure and to explain how it affects physical and particularly non-physical typological criteria, such as, the size of farms, the share of particular forms of labour supply (family, hired, tenancy), land use, the methods of farming, (mechanization, irrigation, dry farming, etc.) the intensity of farming, agricultural productivity, (production per unit area) labour efficiency (production per person employed in agriculture) a.s.o.

The agricultural land of Cyprus (3,232,996 donums)[2], about 47% of the total area of the island, falls under the following land tenure types. (see table 1).

A. PRIVATE LAND

This category consists of 92.36% of the total agricultural land. It is made up of as many as 70,200[3] holdings.[4] Investigations point out that this number of holdings is steadily increasing. The trend is for the small holdings to be increasing and the large holdings to be decreasing in number. The average size of holding, which is constantly decreasing, is 47 donums. While in 1946 the average size of holding amounted to 54 donums, in 1960 it decreased

1. Land tenure is used in its wider sense to include all kinds of arrangements by which farmers or others hold or control land and the mode they condition its use and occupancy.
2. Donum = 0.33 acre, 0.133 = hectare.
3. Census 1960.
4. *Holding* is the unit of operation and includes the family land owned, rented or otherwise operated.

Table. I. LAND TENURE IN CYPRUS.

LAND TENURE CATEGORIES	A R E A (In donums)					
	Agricultural land			Uncultivated		Total
	Area per category	% of category	% of total agricultural land	Area	% of uncultivated land	
A. PRIVATE LAND.						
(a) Holdings operated by their owners	1,496,089	46.28		———		1,496,089
(b) Holdings operated by non-farmers	1,200,522	37.13		———		1,200,522
(c) Holdings belonging to absentee landlords (included in Ab, Ad, Ae)	———	———		———		———
(d) holdings tenanted (leased or share-cropped)	250,508	7.75		———		250,508
(e) Neglected private holdings.	———	———		1,141,651	58.56	1,141,651
(f) Land belonging to corporations, companies, Government farms and other institutions. (Liable to change use at any moment-some vacant agricultural land).	38,943	1.20	92.36			38,943
B. CHURCH, MONASTERY & MOSLEM RELIGIOUS PROPERTIES						
Church and Evqaf	209,612	6.48	6.48			209,612
C. STATE LAND						
Cultivated land	36,502	1.13	1.13			
Uncultivated land				764,000	39.19	800,502
D. COMMUNAL LAND						
Merras				44,000	2.25	44,000
E. CO-OPERATIVE FARMS	820	0.03	0.03			820
F. MIXED TENURES.						
Undivided shares & Multiple ownership (included in Aa, Ab, Ac, Ad, Ae and B)						
	3,232,996	100%	100%	1,949,651	100%	5,182,647

to 47. This decrease is expected to continue because of industrialization, tourism and urbanization.

Fragmentation of holdings is the most serious drawback in the agricultural development. There correspond about ten plots per operator fragmented and scattered over the entire area of the village or even beyond the administrative boundaries of the settlement. Land fragmentation, however, varies according to geographical region. For instance, in the plain of Chrysochou the average fragmentation is ten plots,, in the basin of Morphou 15, in the apple-growing valley of Solia 19 and in the remote, depressed region of Pitsilia over 20.

The dispersion of plots forces the Cypriot farmer to traverse long distances. Research carried out in the regions of Karpasia, Kokkinochoria, Morphou basin and Pitsilia has revealed that the annual distance travelled by the average farmer well exceeds 1,450 miles. The waste of time expressed in months in the villages of Astromeritis, Ayia Trias, Sotira and Palechori is 2.8, 3.5, 3.9 and 6.5 months respectively.

The average size of plot is 4.7 donums. On a regional scale there are, however, differences. In Marathasa the average size is 2.1 donums, in the vine-growing villages 3.2, in Karpasia 6.5 and in the Central plain 8.6 donums.

The shape of the plots is irregular and awkward. This is due mainly to the law of inheritance which permits equal share of similar land to all co-owners. No-doubt this irregular shape impedes the proper cultivation of land.

From the land tenure point of view private lands can be subdivided into the following sub-categories :-

(a) Holdings operated by their owners.

As many as 38,486 (census 1960) holdings belong to this category. These, in their majority, are family holdings mainly undersized with negligible employment of hired labour. As many as 32,375 holdings out of the above referred to figure are below 100 donums in area. Crops vary according to geographical region and water supply. Intensity of farming in the dry lands is low but in irrigated areas it can be very high.

Production per unit area and per person employed is normally low with exceptions in some irrigated areas where highly remunerative crops are cultivated. However, mechanization is not fully employed, although its use is increasing; a high cost of production is noticeable due to the small and fragmented holdings.

Possible sub-divisions within this category are: (i) irrigated and non-irrigated holdings, (ii) small-size and large-size holdings.

(b) Holdings operated by non-farmers.

Land in Cyprus is continuously bought by non-farmers. Various reasons

such as inborn love towards land, fear of inflation, social prestige, aid in obtaining bank credit, speculative motives, etc., lead people, alien to the profession of farmer, to buy or maintain already inherited land. This category of land is exploited through hired labour or agencies. Some part-time farming is also prevalent in certain regions of the Island. As many as 30,883 holdings (census 1960) belong to people with non-agricultural main occupation. Investigations indicate that part of this land is highly developed particularly if it is irrigated. Some of the best examples of large-scale farming are found in this group. Investment is higher than in the undersized family farms because many of the owners of the farms in this group are business men, lawyers, doctors and well-paid civil servants. From the economic standpoint this group can be justified but certainly not from the social. There is also tremendous speculation of land going on at the moment. Land is bought and sold for sheer profit. Its agricultural significance is lost. Research carried out by the author in the plain of Paphos revealed that as many as 11,000 donums have been bought by 152 urban dwellers in the last ten years. An investigation into the purchases of agricultural land in the same region showed that land bought by non-farmers amounted to 85.5%. This phenomenon is widespread and is obviously a most serious obstacle to rapid agricultural development. This subcategory can be split up (i) into holdings operated with the help of hired labour on commercial basis and (ii) holdings bought for speculative purposes and operated temporarily through tenants.

(c) Farms belonging to absentee landlords.

The absentee landlords either live abroad or outside the administrative boundaries of village settlements, usually in towns. A considerable number of Cypriots emigrated abroad or immigrated to the towns of Cyprus but they still retain legally their property which is either looked after by some relatives, or is leased, or temporarily abandoned. Although the percentage of absentee landlords varies from region to region it still can be said that as many as 40% of the entitled owners of a village are absentee landlords. Although this depopulation trend helps land consolidation implementation and the establishment of economically viable units, nevertheless at the moment it constitutes a serious obstacle in the development of agriculture. Elimination of absenteeism will promote continuity of cultivation and will lead to improvement of yield of the land as well as to conservation of its resources.

This land tenure type could be sub-divided (i) into holdings operated by relatives or friends of the absentee landlord or even tenants and (ii) holdings abandoned for the time being until the return of the owner.

Research in the Paphos plain brought out that from 1850 owners of agricultural land as many as 691 were absentee landlords.

(d) Holdings tenanted.

This category can be subdivided into (i) holdings leased and (ii) holdings sharecropped.

As far as leasing is concerned the period of tenancy is very short. Research carried out in the plain of Paphos revealed that 94.7% of the leased land was for less than two years. The tenants favour at least ten-years contract. The short period of tenancy does not permit the tenant to improve the land through soil conservation or other development works, to invest on it, or to grow perennial crops. Beside the tenant feels utterly insecure.

Sharecropping is rather an anachronistic system of operating the land. Owner and tenant come into certain agreements as to the means of production each will contribute.

Sample studies indicate that as much as 85% of the sharecropped land is for a period of 1—2 years.

Fortunately this system is not much preferred and is on the decline. Since 1946 there has been 43.7% decline in the sharecropped land. It is worthwhile mentioning that if a tenant exerts much effort and works hard to increase production by 50% his share at the end will be only 25%. For this reason productivity and investment are discouraged.

The grant of land on lease or sharecropping raises the question of relations between the landowner and the tenant. The greater the harmony of these relations, the more efficient will be the process of cultivation and the greater the quantity and the better the quality of the yield therefrom. A tenancy legislation can provide for continuous farming operations, sustained production and protection against underserved eviction. The tenant will be encouraged to make all the improvements he possibly can and develop the agricultural resources. Insecurity on the other land and in particularly lack of adequate compensations for improvements and disturbance of occupancy, will not only discourage initiative but may permanently damage the land by inviting soil exhausting practices.

This category occupies 7.75% of the cultivable land. To this figure, however, should be added the lands of Church, Monasteries, and Evqaf (the Moslem Religious properties) as well as the State lands which are leased to tenants.

B. CHURCH, MONASTERY AND MOSLEM RELIGIOUS PROPERTIES

In this category are included the properties that belong to the Archbishopric, the three Sees, the monasteries, the village Christian Churches as well as the Moslem religious properties. These properties originated mostly from

generous royal donations in Byzantine days or donations of pious Christians or Moslems. Many properties were also granted to the monasteries during the Turkish Times to avoid confiscation or usurpation. Where as formerly donations were very large, today they are rare and of little value.

Church and monastery land amounts to 186,090 donums whereas the Moslem Religious Properties reach the figure of 23,522. Almost the whole of the land of this category is leased. Optimum utilization of Church and Evqaf lands raises a delicate problem for Cyprus because of constitutional provisions prohibiting their compulsory acquisition.

Fortunately the tendency is for the Church land to be sold. It is no surprise, therefore, that the area of this category is steadily diminishing. Investigations at a few small settlements of the Western seaboard revealed that whereas in 1950 the Church owned about 26,000 donums, in 1969 it only owned 8,000 donums.

As a result of this tendency the sale of Church lands tends to accelerate development.

C. STATE LAND

The State land can be divided into cultivable and uncultivable land. Table 1 shows details concerning the areas under State land. In the first subdivision are the Paphos Chiftlicks (11,842 donums) and lands reclaimed from minor forests (24,660 donums). The Paphos chiftlicks were requisitioned by the Government in 1948. The decision to acquire these lands was made because of the inherent fault of absenteeism and the consequent subleasing to individuals who mainly exploited the land and water for personal profit without any incentive to maintain and develop the properties in accordance with sound conceptions of good husbandry. The Government undertook various meassures such as construction of irrigation works, implementation of land improvement works, establishment of permanent plantations and establishment of intensive livestock enterprises.

The land is leased to the tenants' farming co-operative societies who sublet to their members with the approval of the Government. Although there is no co-operative basis in production, these societies play an important role as they enable the farmers to obtain long and short term credit more easily. They offer many other facilities as well.

The leases are long enough (in one chiftlick up to 30 years) to give the farmer the sense of stability and allow him to carry out improvements on the land he works.

In the reclaimed forest lands leasing is not as long-term as in the four chiftlicks.

The non-cultivable land of this group is mostly made up of land obtained from cleared forest or land named "hali" which remained unregistered during the National registration of 1909—1929 and therefore at the end stayed as Government land. Hali lands, as they stand now, are of only limited interest for they consist of mediocre quality lands under scrub and sometimes are completely uncultivable i.e. rocky lands, beaches, etc. Squatting, however on hali lands and cleared forests is a permanent phemenon but the area varies from year to year. It is, besides, difficult to record all the cases of squatting and even more difficult to determine the areas.

D. COMMUNAL LAND

This category known as "Merras", the relics of the Turkish occupation in Cyprus, consists of compact grazing lands usually at small distances from the village settlement. This peculiar type of land, very small in area, (44.000 donums) is owned communally and its explotation is left only to shepherds.

According to the Law the Communal land belongs to the inhabitants of the village and no person can acquire at any time any private or exclusive right to the communal property. Land use can change in this category only if two-thirds of the male inhabitants who have attained the age of twenty-one years decide that its existing use no longer satisfies them.

E. CO-OPERATIVE FARMS

There is only one co-operative farm in Cyprus. It is made up of about 820 donums of land. It has been formed by a group of progressive farmers after the second world war. Similar co-operatives were set up in other parts of Cyprus but one after the other were dissolved.

F. MIXED TENURES

The law of inheritance has created a great number of co-ownerships which to-day constitute a great obstacle in the programming and development of agriculture. A donum of land or a tree may belong to various owners who are registered with the Registration Dept. There is a case in Cyprus that property has been sub-divided in such a manner over considerable time that to-day the share of its owners has as denominator a figure above 40,000,000. There are many cases that a plot of land belongs to one owner, the trees on it to another and the water rights to a third. It is possible that a tree may belong to an individual whereas the land may be forest or belong to the State. It is calculated that 20—25% of the cultivable land is owned in undivided shares.

Farmers consider these lands under undivided shares as second class lands

and consequently neglect their-exploitation. Since it does not belong wholly to the farmer apart from 1/15 or 1/50, or 75/3,000,000 of it, no doubt he will not try hard to exploit it. So a considerable part of the land is neglected and left to the agents of denudation.

Even if undivided land is cultivated, it is usually not exploited with the most suitable crop because of disagreements among the co-owners. Three or four co-owners might prefer three of four different crops.

Undivided land is not usually improved through soil conservation or irrigation works because not all co-owners might agree, not to mention that even some might be absentees. No investments are made over this land, the fertility diminishes and production and productivity are affected.

CONCLUSION

Through this paper it has been endeavored to present the land tenure types prevalent over modern Cyprus. Many of these types are the relics of the past. They do, however, influence considerably the present day agriculture of Cyprus despite the fact that efforts are being exerted through legislations to establish a new land tenure structure through which agriculture will be rationalized.

The various land tenure types, some of which are very anachronistic, affect considerably physical and non-physical typological criteria. Two holdings of the same size adjacent to each other with the same physical background can give completely different results simply because they belong to two different owners. One might be an absentee landlord or a person alien to the profession of farmer for whom there is little economic pressure to use his land intensively, not to mention that it can be totally neglected; the other might be an owner-operator whose living depends entirely upon the proper exploitation of his holding. Even a comparison between private leased lands and State or Church leased lands brings forward different results.

The mapping of land tenure types in Cyprus particularly on a large-scale map will show a mosaic. Even such a mapping will be highly difficult, if not impossible, because of the excessive fragmentation and the mixed tenures prevailing in Cyprus. The paper aims, however, at pointing out how powerful is the factor of land tenure in Cyprus and how much the existing land tenure structure inpedes full, efficient use of the land, labour force as well as other resources at the command of agriculture. In Cyprus who owns the land counts much. This is not a final classification of agricultural types. It is only an attempt to show that on the basis of land tenure there is, at least in Cyprus, ground for such a classification.

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ΓΕΩΓΡΑΦΙΚΑ ΝΕΑ

'Ιανουάριος 1971 — 'Ιούνιος 1971

Γ' ΔΙΕΘΝΗΣ ΧΑΡΤΟΓΡΑΦΙΚΗ ΕΚΘΕΣΙΣ ΚΥΠΡΟΥ

1. Δημοσιογραφικὴ διάσκεψις τοῦ Προέδρου τοῦ Γ.Ο.Κ., ἐπ' εὐκαιρίᾳ τῆς Γ' Διεθνοῦς Χαρτογραφικῆς 'Εκθέσεως Κύπρου.

(2 'Απριλίου, 1971)

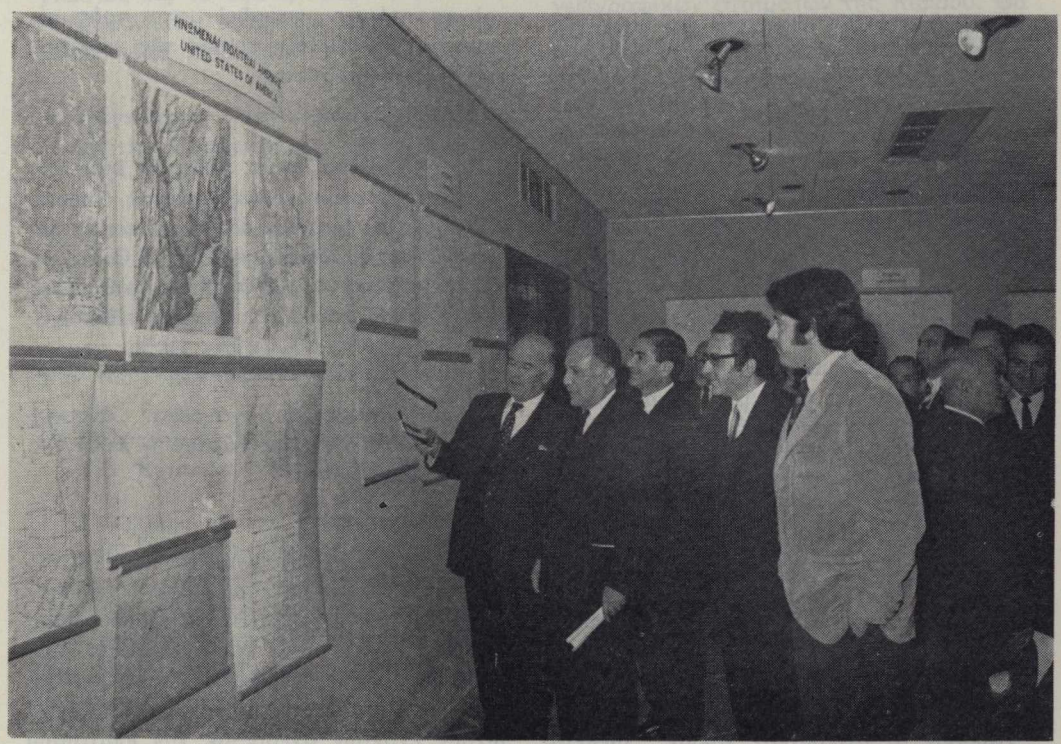
'Η παροῦσα δημοσιογραφικὴ διάσκεψις συγκαλεῖται διὰ δύο λόγους. Νὰ ἐνημερωθῆ ἀφ' ἑνὸς ὁ δημοσιογραφικὸς κόσμος τῆς Νήσου ἐπὶ τῶν δραστηριοτήτων τοῦ 'Ομίλου καὶ νὰ δοθῶσιν ἀφ' ἑτέρου σχετικαὶ πληροφορίαι ἐπὶ τῆς διοργανουμένης αὔριον Γ' Διεθνοῦς Χαρτογραφικῆς 'Εκθέσεως Κύπρου.

Α' ΔΡΑΣΤΗΡΙΟΤΗΤΕΣ ΤΟΥ ΟΜΙΛΟΥ

Αὗται δύνανται νὰ συνοψισθῶσιν ὡς ἀκολούθως:-

1. Καθιέρωσις ἐπὶ ἐτησίας βάσεως τῆς Διεθνοῦς Χαρτογραφικῆς 'Εκθέσεως.

Πρόκειται περὶ μιᾶς δραστηριότητος ἥτις ἐπεκτείνεται ἔξω τοῦ Κυπριακοῦ χώ-



Οἱ 'Υπουργοὶ Δικαιοσύνης καὶ Συγκοινωνιῶν καὶ Ἔργων κ.κ. Γ. 'Ιωαννίδης καὶ Ν. Ροῦσος καὶ ἄλλοι ἐπίσημοι περιέρχονται τὴν Γ' Διεθνῆ Χαρτογραφικὴν Ἔκθεσιν Κύπρου.

ρου καὶ περιλαμβάνει ὅλα τὰ γεωγραφικὰ πλάτη καὶ μήκη. Ἡ περυσινὴ ἔκθεσις ἐπὶ Ἐθνικῶν καὶ Σχολικῶν Ἀτλάντων προσείλκυσεν περὶ τὰς πέντε χιλιάδας ἐπισκέπτας. Ἡ ἐφετεινὴ ἔκθεσις, ἥτις προβλέπεται νὰ σημειώσῃ ἐπιτυχίαν, διαπραγματεύεται κτηματικοὺς χάρτας καὶ σχέδια.

2. Πανεπιστημιακοὶ τάξεις.

Φροντίδι τοῦ Γ.Ο.Κ. λειτουργοῦν εἰς Κύπρον πανεπιστημιακαὶ τάξεις διὰ τὸ δίπλωμα γεωγραφίας τοῦ Πανεπιστημίου τοῦ Λονδίνου. Οἱ Κύπριοι φοιτηταὶ ἐγγράφονται εἰς τὸ Πανεπιστήμιον τοῦ Λονδίνου, ἑνὸς τῶν πλέον δυσκόλων ἀλλὰ συγχρόνως ἀνεγνωρισμένων καὶ φημισμένων πανεπιστημίων τοῦ κόσμου, παρακολουθοῦν διαλέξεις εἰς Κύπρον ἀπὸ κατηρτισμένους καθηγητὰς μὲ ὑψηλὰ ἀκαδημαϊκὰ προσόντα, παρακάθηνται εἰς ἐξετάσεις τοῦ πανεπιστημίου κατὰ τὸν ἴδιον χρόνον ποὺ παρακάθηνται οἱ συμμαθηταί των οἱ εὑρισκόμενοι εἰς τὴν Βρεττανίαν, τὰ γραπτὰ ἐξετάζονται ὑπὸ τῶν ἰδίων Βρεττανῶν ἐξεταστῶν καὶ τὰ ἀποτελέσματα ἀνακοινοῦνται τὴν ἰδίαν ἡμέραν καὶ ὥραν ὡς νὰ εὑρίσκοντο εἰς τὸ Πανεπιστήμιον τοῦ Λονδίνου.

3. Μηνιαία ὑπαίθριος γεωγραφικὴ μελέτη.

Ὁ Ὅμιλος ὀργανώνει καθ' ἕκαστον μῆνα ἐπίσκεψιν εἰς μίαν περιοχὴν τῆς Κύπρου τὴν ὁποίαν μελετᾶ ἐπισταμένως ἀπὸ γεωγραφικῆς πλευρᾶς. Οὕτω, δίδεται ἡ εὐκαιρία, τόσον εἰς τὰ μέλη τοῦ Ὁμίλου ὅσον καὶ εἰς ἄλλους ἐνδιαφερομένους, νὰ γνωρίσουν ἐπιστημονικῶς τὸν τόπον των. Ἡ Κύπρος, ὡς γνωστόν, ἔχει μικρὰν μὲν ἔκτασιν, τεραστίαν ὅμως ποικιλίαν γεωγραφικοῦ περιβάλλοντος· πολὺ δὲ ὀλίγοι Κύπριοι δύνανται νὰ ἀναγνώσουν τὸ Κυπριακὸν τοπίον. Μελετᾶται ἡ ὀργάνωσις τῆς ὑπαιθρίας μελέτης ἀνὰ δεκαπενθήμερον.

4. Μηνιαία γεωγραφικὴ κινηματογραφικὴ βραδυά.

Καθ' ἕκαστον μῆνα προβάλλεται ἡ γεωγραφία μιᾶς χώρας. Αὐτὸ κατωρθώθη χάρις εἰς τὰς καλὰς σχέσεις τοῦ Ὁμίλου μετὰ τῶν ἐν Κύπρῳ ξένων πρεσβειῶν, αἵτινες προμηθεύουν τὰς ταινίας. Ὁ ἀντικειμενικὸς σκοπὸς τῶν προβολῶν αὐτῶν εἶναι νὰ βοηθήσωμεν τόσον τὰ μέλη μας ὅσον καὶ τὸ Κυπριακὸν κοινὸν γενικώτερον νὰ ἀναπτύξωσι τὰς ἱκανότητάς των διὰ συγκρίσεις καὶ ἀντιπαραβολὰς μεταξὺ διαφόρων γεωγραφικῶν τοπίων. Προσπαθοῦμεν ἐπίσης νὰ τονίσωμεν ὅτι ἡ Κύπρος ὡς χώρα Εὐρωπαϊκή, δὲν εἶναι μόνον μὲ τὰς πτωχὰς χώρας τῆς Μέσης Ἀνατολῆς καὶ τῆς γειτονικῆς Β. Ἀφρικῆς ποὺ θὰ συγκρίνηται — ὡς πολλάκις συμβαίνει ἐν Κύπρῳ — ἀλλὰ καὶ μὲ τὰς χώρας τῆς Ἠπείρου τῆς ὁποίας εἶναι μέρος, ἢ ἀκόμη μὲ χώρας αἵτινες πλεονεκτοῦν καὶ προσφέρουν παραδείγματα πρὸς μίμησιν εἰς ὡρισμένους τομεῖς τῆς γεωγραφικῆς δραστηριότητος.

5. Διαλέξεις.

Προσκαλοῦνται καθ' ἕκαστον ἔτος ξένοι διάσημοι γεωγράφοι, οἵτινες δίδουν διαλέξεις ἐπὶ φλεγόντων γεωγραφικῶν θεμάτων καὶ συμβουλεύουν τὸν Γ.Ο.Κ. ἐπὶ ἄλλων συναφῶν προβλημάτων. Ὁμιλίας δίδουν ἐπίσης ἀρκετοὶ Κύπριοι εἰδικοί.

6. Δημοσία κριτικὴ χαρτῶν.

Ἅπαξ τοῦ ἔτους ὀργανοῦται ἀνοικτὴ δημοσία κριτικὴ ἑνὸς χάρτου ἢ ἄτλαντος ἄρτι παραχθέντος.

7. Ὑπομνήματα.

Τὰ θαρραλέα ὑπομνήματα τοῦ Γ.Ο.Κ. εἶναι γνωστὰ εἰς τὸ εὐρὺ κοινόν. Τὰ ὑπομνήματά μας ὑποβάλλονται τόσον πρὸς τὴν Κυβέρνησιν ὅσον καὶ πρὸς τοὺς Ἡμικρατικοὺς καὶ Ἰδιωτικοὺς Ὀργανισμούς, διὰ τὴν χάραξιν ὀρθῆς πολιτικῆς ἐπὶ θεμάτων ἐχόντων σχέσιν μὲ τὴν ἐπιστήμην τῆς Γεωγραφίας.

Ἔχομεν λάβει σωρείαν συγχαρητηρίων

διὰ τὸ ποιὸν τῶν ὑπομνημάτων μας, τόσον ἀπὸ τὸν Πρόεδρον τοῦ Κράτους ὅστις τυγχάνει καὶ ὁ Ὑψηλὸς Προστάτης τοῦ Ὁμίλου, ὅσον καὶ ἀπὸ πολλοὺς ἄλλους οἵτινες συγκινοῦνται ἀπὸ τὸ σθένος, τὴν ἐπιχειρηματολογίαν καὶ τὰς πρωτοτύπους ἰδέας τῶν ὑπομνημάτων αὐτῶν.

8. Ἀνάπτυξις σχέσεων μὲ ἄλλους ὁμίλους καὶ ὀργανισμούς.

Συνεχῶς ἀναπτύσσονται αἱ σχέσεις τοῦ Γ.Ο.Κ. μὲ ἄλλους γεωγραφικοὺς ὁμίλους καὶ παρεμφερεῖς ὀργανισμοὺς τοῦ ἐξωτερικοῦ. Εἴμεθα ἓν ἀπὸ τὰ 60 μέλη τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως καὶ διαδραματίζομεν ἐξ ἴσου σημαντικὸν ρόλον εἰς τὰ διεθνῆ γεωγραφικὰ ζητήματα ὡς πολλαὶ χῶραι μὲ γεωγραφικὴν παράδοσιν μερικῶν ἑκατοντάδων χρόνων. Ἀξίζει νὰ τονισθῇ ὅτι ὁ Ὅμιλός μας εἶναι τόσον γνωστὸς εἰς τὸ ἐξωτερικόν, ὥστε πολλαὶ ἐπιστημονικαὶ ἑταιρεῖαι ἔχουν ζητήσει συνεργασίαν μεθ' ἡμῶν.

9. Παγκύπριος Μαθητικὸς διαγωνισμὸς εἰς τὴν Γεωγραφίαν.

Ἀπὸ ἐφέτος ἔχομεν καθιερώσει παγκύπριον μαθητικὸν διαγωνισμὸν εἰς τὴν Γεωγραφίαν μὲ σκοπὸν νὰ ἐνθαρρύνωμεν τὴν γεωγραφικὴν ἔρευναν καὶ γνῶσιν εἰς τὰ σχολεῖα Μέσης Ἐκπαιδεύσεως. Ὁ διαγωνισμὸς τοῦτος καθιερώθη μὲ τὴν συνεργασίαν τοῦ Ὑπουργείου Παιδείας.

10. Ἀνώτατον Συμβουλευτικὸν Σῶμα ἐπὶ Ἐκπαιδευτικῆς γεωγραφίας.

Ὁ Ὅμιλος ἵδρυσε Ἀνώτατον Συμβουλευτικὸν Σῶμα ἀπὸ καθηγητὰς καὶ διδασκάλους, μέλη τοῦ Γ.Ο.Κ., οἵτινες μελετοῦν τὰ ἐκπαιδευτικὰ συστήματα ἄλλων χωρῶν, συνέρχονται εἰς τακτικὰς συσκέψεις καὶ συζητοῦν θέματα Ἐκπαιδευτικῆς Γεωγραφίας. Διὰ τοῦ τρόπου αὐτοῦ βοηθεῖται τὸ Ὑπουργεῖον Παιδείας εἰς τὴν χάραξιν ὀρθῆς πολιτικῆς ἐπὶ τοῦ ὑψηλοῦ θέματος τῆς Γεωγραφίας.

11. Χριστουγεννιάτικη κάρτα.

Ἀπὸ τὸν Δεκέμβριον τοῦ 1970, καθιερώσαμεν ἐτησίαν εὐχετήριον Χριστουγεννιάτικην κάρταν μὲ γεωγραφικὸν περιεχόμενον. Ἡ πρώτη κάρτα ἥτις ἀπεικόνιζε ἀρχαῖον χάρτην τῆς Κύπρου ἐσημείωσε τεραστίαν ἐπιτυχίαν.

12. Δελτίον Ὁμίλου.

Ἀπὸ ἐφέτος καὶ δὴ ἐντὸς τῶν ἡμερῶν κυκλοφορεῖ τὸ δελτίον τοῦ Ὁμίλου. Κυκλοφορεῖ κατ' ἀρχὴν ὡς ἐτήσιον, ἐλπίζεται ὅμως ὅτι λίαν συντόμως θὰ κυκλοφορῇ ἀνὰ ἑξαμηνίαν μὲ προοπτικὴν νὰ καταστῇ τριμηνιαῖον ἐπιστημονικὸν ὄργανον τοῦ Γ.Ο.Κ. Ὡς θὰ ἰδῆτε, τὸ δελτίον μας εἶναι πολὺ ὑψηλῆς πνευματικῆς στάθμης, συνεργάζονται εἰς αὐτὸ διάσημοι γεωγράφοι καὶ θὰ ἐκδίδεται εἰς τὴν Ἑλληνικὴν καὶ Ἀγγλικήν, καθ' ὅσον ἀρκετοὶ ξένοι γεωγράφοι ζητοῦν νὰ ἐνημερωθοῦν ἐπὶ τῶν γεωγραφικῶν ζητημάτων τῆς Κύπρου. Θὰ φέρῃ τὸν τίτλον «Γεωγραφικὰ Χρονικά».

13. Ἐκδόσεις Ὁμίλου.

Ἀπὸ ἐφέτος ὁ Ὅμιλος θὰ ἀρχίσῃ τὰς γεωγραφικάς του ἐκδόσεις. Δύο τοιαῦται ἐκδόσεις θὰ εἶναι ἕτοιμοι πρὸς κυκλοφορίαν ἐντὸς τῶν προσεχῶν ἡμερῶν.

14. Χαρτοθήκη.

Ἕνας ἀπὸ τοὺς σκοποὺς τοῦ Ὁμίλου εἶναι καὶ ἡ δημιουργία χαρτοθήκης. Ὁ Γ.Ο.Κ. ἔχει σήμερον δημιουργήσει μίαν πλουσιωτάτην χαρτοθήκην μὲ ἄνω τῶν 3,000 χαρτῶν διαφόρων τύπων καὶ κλιμάκων. Ἀναμφιβόλως διαθέτομεν τὴν καλυτέραν χαρτοθήκην εἰς Κύπρον. Ἐντὸς 3—5 ἐτῶν μὲ τὴν πραγματοποίησιν καὶ ἄλλων διεθνῶν χαρτογραφικῶν ἐκθέσεων θὰ πρέπει νὰ ἔχωμεν μίαν ἀπὸ τὰς καλυτέρας χαρτοθήκας εἰς τὸν Κόσμον.

15. Δασύλλιον Γ.Ο.Κ.

Ἔχομεν ἀποταθῇ εἰς τὸ Ὑπουργεῖον Ἐσωτερικῶν ὅπως μᾶς παραχωρήσῃ ἔκτασιν 15—30 σκαλῶν γυμνῆς χαλίτικης γῆς εἰς τὸν δρόμον Λευκωσίας—Λεμεσοῦ

διὰ νὰ τὴν περιφράξωμεν, δενδροφυτεύσωμεν καὶ ἐξωραΐσωμεν. Ἐλπίζομεν ὅτι ἡ σχετικὴ ἄδεια θὰ ἐγκριθῆ καὶ οὕτω θὰ δώσωμεν ἕνα καλὸν παράδειγμα εἰς πολλοὺς ὀργανισμοὺς καὶ ἰδιώτας περὶ τοῦ τρόπου δημιουργίας πρασίνου καὶ ἐξωραϊσμοῦ τοῦ γυμνοῦ τοπίου ποὺ δυστυχῶς ἀφθονεῖ εἰς Κύπρον. Αἱ δραστηριότητες τοῦ Ὁμίλου μας περὶ διατηρήσεως τοῦ φυσικοῦ περιβάλλοντος εἶναι γνωσταὶ ὥστε νὰ μὴ χρειάζεται ἰδιαιτέρα μνεία. Ὁ Ὅμιλός μας τυγχάνει μέλος τοῦ Κυπριακοῦ Συμβουλίου Διατηρήσεως τοῦ Περιβάλλοντος καὶ διαδραματίζει σημαίνοντα ρόλον εἰς τὴν χάραξιν ὀρθῆς πολιτικῆς, ἰδιαιτέρως ὅσον ἀφορᾶ τὸ Κυπριακὸν τοπίον.

Παρ' ὅλα ταῦτα ἐπιθυμοῦμεν νὰ μὴ τρέφωμεν αὐταπάτας. Γνωρίζομεν ὅτι πολλὰ ὑπολείπονται ἀκόμη νὰ γίνουν διὰ νὰ λάβη ἡ Γεωγραφία ὑπὸ τὴν περιεκτικὴν αὐτῆς ἔννοιαν, τὴν θέσιν της εἰς τὴν ζωὴν τοῦ τόπου. Πιστεύομεν, ἐν τούτοις, ὅτι ἔχει δοθῆ μία σημαντικὴ ὥθησις καὶ παρ' ὅλον ὅτι ἀγωνιζόμεθα ὑπὸ οὐχὶ εὐνοϊκὰς συνθήκας, οἱ στόχοι μας, ὁ εἷς κατόπιν τοῦ ἄλλου, καλύπτονται. Εἰς τὴν ἐπιτυχίαν τοῦ ἀνιδιοτελοῦς ἔργου μας πρέπει νὰ ὁμολογήσωμεν ὅτι εὑρίσκομεν ὑμᾶς, τοὺς ἐκπροσώπους τοῦ Τύπου, στενοὺς συμπαραστάτας, δραττόμεθα δὲ τῆς εὐκαιρίας ταύτης νὰ σᾶς εὐχαριστήσωμεν θερμῶς διὰ τὴν ἀνελλιπῆ δημοσίευσιν ὅλων τῶν ἀνακοινώσεων καὶ δραστηριοτήτων μας.

Τὰ μέλη τοῦ Ὁμίλου ἀνερχόμενα εἰς 170 ἔχουν ἀρκετὸν δυναμισμὸν καὶ τεραστίας ἱκανότητας, ὑπόσχονται δὲ πολὺ περισσότερα ἐπιτεύγματα εἰς τοὺς ποικίλους τομεῖς τῆς γεωγραφικῆς δραστηριότητος. Ὅμως, παρὰ τὴν ἐπιθυμίαν των νὰ ἐργασθῶσιν ἀνιδιοτελῶς διὰ τὸ καλὸν τοῦ τόπου, εἰς μίαν μάλιστα ἐποχὴν ποὺ ὁ χρόνος μετρᾶται μὲ τὸ χρῆμα καὶ τὸ ἰδιωτικὸν συμφέρον, κωλυόμεθα ἀπὸ οἰκονομικὰς δυσχερείας, αἵτινες περιορίζουν τόσον τὸν ἀριθμὸν τῶν ἀναληφθησομένων σχεδίων ὅσον καὶ τὸ ποιὸν τῶν δημιουργημάτων μας. Εἶναι καιρὸς ἡ Κυβέρνησις νὰ ἐπιληφθῆ τοῦ θέματος τούτου καὶ ὅμιλοι ὡς ὁ ἰδικός μας, ποὺ ὄχι μόνον ἀνθεξαν εἰς τὸν χρόνον ἀλλὰ περισσότερον ἐγιγαντώθησαν, νὰ τύχουν οἰκονομικῆς στοργῆς. Οἱ ἰδιωτικοὶ ὅμιλοι, λόγω τῆς εὐελιξίας καὶ ἀνεξαρτησίας των, δύνανται νὰ κινηθοῦν ἀποδοτικῶς καὶ ταχέως εἰς εὐρέα πλαίσια.

Β΄ ΤΡΙΤΗ ΔΙΕΘΝΗΣ ΧΑΡΤΟΓΡΑΦΙΚΗ ΕΚΘΕΣΙΣ

(Κτηματικὰ σχέδια)

Ὡς ἤδη ἀνεφέρθη, ἡ Διεθνὴς Χαρτογραφικὴ Ἔκθεσις Κύπρου ἔχει πλέον καθιερωθῆ ἐπὶ μονίμου βάσεως καὶ μετὰ τὴν τεραστίαν ἐπιτυχίαν τῶν δύο τελευταίων ἐκθέσεων, ὁ Γεωγραφικὸς Ὅμιλος Κύπρου ὀργανώνει ἐφέτος τὴν Γ΄ Διεθνῆ Χαρτογραφικὴν Ἔκθεσιν μὲ θέμα τοὺς Κτηματικοὺς χάρτας καὶ σχέδια. Τὰ ἐγκαίνια τῆς ἐκθέσεως τελεῖ ὁ Ὑπουργὸς Δικαιοσύνης κος Γ. Ἰωαννίδης, τὴν 3ην Ἀπριλίου, 1971 καὶ ὥραν 6 μ.μ. εἰς τὴν γκαλερὺ τοῦ Χίλτον. Ἡ ἔκθεσις εἰς τὴν ὁποίαν συμμετέχουν 16 χῶραι, θὰ παραμείνη ἀνοικτὴ μέχρι τῆς 10ης Ἀπριλίου. Εἶναι εὐχάριστον τὸ γεγονὸς ὅτι μεταξὺ τῶν συμμετεχουσῶν χωρῶν περιλαμβάνονται ὅλαι σχεδὸν αἱ χῶραι αἵτινες φημίζονται διὰ τὴν ποιότητα τῶν κτηματικῶν σχεδίων.

Οἱ βασικοὶ σκοποὶ τῆς Γ΄ Διεθνοῦς Χαρτογραφικῆς Ἐκθέσεως εἶναι οἱ ἀκόλουθοι:-

(α) Δίδεται ἡ εὐκαιρία εἰς τοὺς Κυπρίους καὶ ἰδιαιτέρως εἰς ὅσους ἀσχολοῦνται μὲ χαρτογραφικὰ θέματα, νὰ ἐξετάσουν ἐκ τοῦ σύνεγγυς τὰ τελευταῖα ἐπιτεύγματα ἄλλων χωρῶν εἰς ἕνα μάλιστα τόσον σπουδαῖον τομέα τῆς χαρτογραφίας ὡς εἶναι ὁ κτηματικός. Εἶναι

ἄλλωστε γνωστὸν ὅτι ἡ διαχείρισις γαιῶν, ἡ μεταβίβασις ἰδιοκτησίας καί τίτλου, ἡ ἀνάπτυξις περιοχῶν, ἡ ἀνάληψις ἔργων διὰ σκοποὺς ἀναδασμοῦ, πολεοδομίας καὶ χωροταξίας, ὁ καθορισμὸς νομικῶν συνόρων εἰς ἰδιοκτησίας, εἴτε διὰ φορολογικοὺς σκοποὺς, εἴτε δι' ἀσφάλειαν περιουσίας ὡς καὶ οἱαδήποτε ἄλλη δραστηριότης ἀφορῶσα εἰς τὴν ἔγγειον ἰδιοκτησίαν, ἀπαιτεῖ πρωτίστως ἀκριβεῖς καὶ ὑψηλῆς ποιότητος κτηματικοὺς χάρτας.

(β) Δίδεται ἡ εὐκαιρία εἰς ἄλλας χώρας τοῦ κόσμου νὰ ἐκθέσωσι τοὺς κτηματικοὺς των χάρτας, ἐνέργεια ἥτις εἰς τὴν τελευταίαν ἀνάλυσιν σημαίνει ἔκθεσιν τῆς σημερινῆς κοινωνικῆς (ἀστικῆς καὶ ἀγροτικῆς) δομῆς των, τοῦ ἀκολουθουμένου γεωργικοῦ συστήματος των, τοῦ ὑφισταμένου συστήματος διακατοχῆς γῆς, τῆς ἐπικρατούσης πολεοδομικῆς τάξεως ἢ ἀναρχίας, μέχρι ἀκόμη εἰς ἀρκετὰς περιπτώσεις καὶ τοῦ οἰκονομικοῦ σταδίου ἀναπτύξεώς των.

(γ) Ἐνθαρρύνεται ἡ χρῆσις ἐν Κύπρῳ τῶν τελευταίων τεχνολογικῶν μέσων διὰ τὴν παραγωγὴν ἐκσυγχρονισμένων, καλῆς ποιότητος καὶ σχολαστικῆς ἀκριβείας κτηματικῶν σχεδίων ὑπὸ τὴν κατάλληλον κλίμακα.

(δ) Οἱ ἐκπαιδευτικοὶ καὶ οἱ ἀσχολούμενοι μὲ τὴν ἀστικὴν ἢ ἀγροτικὴν ἀνάπτυξιν θὰ ἀντιληφθοῦν ὅτι μὲ ἕνα ἀκριβὲς κτηματικὸν σχέδιον μεγάλης κλίμακος δύναται νὰ παραχθῇ εὐκόλως ἕνας πρώτης τάξεως χάρτης χρήσεως γῆς τόσον διὰ ἐκπαιδευτικοὺς, ὅσον καὶ διὰ σκοποὺς οἰκονομικῆς ἀναπτύξεως. Ἡ Βρεττανία ἔχει παραγάγει δὶς χάρτας χρήσεως γῆς ἀπὸ μεγάλης κλίμακος κτηματικὰ σχέδια χωρὶς νὰ χρησιμοποιήση τὰς ἀεροφωτογραφίας.

(ε) Προβάλλεται ἡ Κύπρος διεθνῶς. Ἤδη εἰς ὅλους τοὺς γεωγραφικοὺς καὶ χαρτογραφικοὺς κύκλους τῆς Εὐρώπης καὶ τῶν ἄλλων Ἠπείρων ἔγινε γνωστὴ ἡ διοργανουμένη τὴν 3ην Ἀπριλίου, Γ΄ Διεθνὴς Χαρτογραφικὴ Ἔκθεσις Κύπρου. Ἀξίζει νὰ ἀναφερθῇ ὅτι ἐφέτος θὰ παρευρεθῶσιν εἰς τὴν ἔκθεσιν ἀρκετοὶ γεωγράφοι καὶ χαρτογράφοι ὡς ἐκπρόσωποι τῶν συμμετεχουσῶν χωρῶν.

(στ) Ἡ ἔκθεσις, ὡς ἐτονίσθη καὶ εἰς τὸ παρελθὸν, θὰ δείξῃ εἰς ὅλους, Κυβέρνησιν καὶ λαόν, τὸ τεράστιον χαρτογραφικὸν ἔργον τὸ ὁποῖον ἀναμένεται νὰ ἐπιτελεσθῇ ἐν Κύπρῳ εἰς σύντομον χρονικὸν διάστημα.

2. Προσφώνησις τοῦ Προέδρου τοῦ Γ.Ο.Κ. κ. Γ. Καρούζη κατὰ τὰ ἐγκαίνια τῆς Γ΄ Διεθνοῦς Χαρτογραφικῆς Ἐκθέσεως.

Ἔντιμε Κύριε Ὑπουργέ,
Your Excellencies,

Κυρίαι καὶ Κύριοι,

Ἐκ μέρους τοῦ Διοικητικοῦ Συμβουλίου τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου καὶ τῆς Ὀργανωτικῆς Ἐπιτροπῆς τῆς Ἐκθέσεως, σᾶς καλωσορίζω εἰς τὴν Γ΄ Διεθνῆ Χαρτογραφικὴν Ἔκθεσιν Κύπρου.

Ὡς εἶναι γνωστόν, τόσον εἰς Ὑμᾶς ὅσον καὶ εἰς τοὺς γεωγραφικοὺς καὶ χαρτογραφικοὺς κύκλους τοῦ ἐξωτερικοῦ, ἡ Ἔκθεσις αὕτη ἔχει ἤδη καθιερωθῇ ἐπὶ μονίμου βάσεως. Ἐφέτος εἰς τὴν ἔκθεσιν συμμετέχουν 16 χῶραι μὲ κύριον ἔκθεμα τοὺς κτηματικοὺς χάρτας. Δὲν εἶναι ἔργον τῆς παρούσης στιγμῆς ἡ ἀναδρομὴ εἰς τὴν ἱστορίαν τῆς Κτηματικῆς Χαρτογραφίας, τῆς ὁποίας αἱ ρίζαι ἀνάγονται εἰς τοὺς ἀρχαίους πολιτισμοὺς τῆς Αἰγύπτου καὶ Μεσοποταμίας, οὔτε ὁ χρόνος μᾶς ἐπιτρέπει νὰ σκιαγραφήσωμεν τὴν ἐξέλιξιν διὰ μέσου τῶν αἰώνων τοῦ θεματικοῦ τούτου χάρτου διὰ νὰ φθάσωμεν εἰς τὸ σημερινὸν στάδιον τῆς παραγωγῆς κτηματικῶν σχεδίων διὰ τῆς χρήσεως τῶν ἀεροφωτογραφιῶν.

Τοὺς σκοποὺς τῆς ἐκθέσεως ἀνέλυσε ὁ Γεωγραφικὸς Ὅμιλος Κύπρου εἰς χθεσινὴν δημοσιογραφικὴν διάσκεψιν ὥστε νὰ μὴ χρειάζεται ἐκ μέρους μου ἐπανάληψις.

Σήμερον θὰ ἔχετε τὴν εὐκαιρίαν νὰ

ἴδητε συνήθη κτηματικὰ σχέδια παραχθέντα διὰ τῶν κλασσικῶν μεθόδων ὡς καὶ σύγχρονα σχέδια ἑτοιμασθέντα φωτογραμμετρικῶς. Μέσῳ τῶν κτηματικῶν σχεδίων τῆς ἐκθέσεως θὰ παρελάσῃ ἐντὸς ὀλίγου πρὸ τῶν ὀφθαλμῶν μας ὁ πολεοδομικὸς προγραμματισμὸς καὶ ἡ ἀγροτικὴ σχεδιοποίησις, αἱ κολλεκτίβαι καὶ τὰ κρατικὰ ἀγροκτήματα τῶν ἀνατολικῶν χωρῶν τῆς Εὐρώπης, ὁ πολυτεμαχισμὸς καὶ τὰ ἀλλόκοτα σχήματα τῶν ἀγροτεμαχίων τῶν Μεσογειακῶν χωρῶν, ὁ ἀναδασμὸς καὶ ἡ ἀγροτικὴ μεταρρύθμισις, τὰ σύγχρονα πολεοδομικὰ καὶ χωροταξικὰ σχέδια τῶν προηγμένων χωρῶν τοῦ κόσμου.

Προτοῦ παρακαλέσω τὸν ἔντιμον Κύριον Ὑπουργὸν Δικαιοσύνης νὰ ἀνοίξῃ τὴν ἔκθεσιν, ἐπιτρέψατέ μου νὰ εὐχαριστήσω καὶ δημοσίως τὰς χώρας αἵτινες συμμετέχουν εἰς τὴν ἐκδήλωσιν ταύτην.

Your Excellencies,

Ladies and Gentlemen,

On behalf of the Cyprus Geographical Association I welcome you to the Third International Cartographic Exhibition of Cyprus. Our thanks and appreciation are particularly extended to the 16 countries participating in this cartographic and cultural activity of Cyprus. We extend also warm welcome to the delegations of the countries deliberately arrived in Cyprus to attend the opening of this event.

Year after year this Exhibition is gaining moral and financial support from many foreign and local geographic and non geographic Societies and Organizations. We would like particularly to thank the Ambassadors and the Cultural or Commercial Attaches of the various Embassies in Nicosia and the neighbouring countries for the efforts exerted to persuade their esteemed Governments to participate in the Exhibition. It is in fact through the Embassies that our Association manage to canalise foreign geographic knowledge and research to Cyprus and vice versa.

Our thanks and gratitude are extended to the following countries for the donations of maps to the Association and their participation in the Exhibition:-

First of all we thank Portugal participating for first time in the Exhibition. In fact Portugal is participating with an almost unique cadastral plan indicating plot boundaries and plot numbers in red colour. Superimposed upon the ownership structure is the relief of the terrain.

The Republic of China presents a most informative cadastral sheet indicating clearly land reform. The reallocation of holdings combined with a new road network and a new drainage system is distinctly depicted.

Finland and Cyprus are participating with the ordinary types of cadastral plans with the exception of Cyprus, participating with a variety of scales.

Netherlands exhibits an excellent map showing land redistribution in rural areas as well as a good quality urban plan on Amsterdam.

The British participation is based upon plans prepared by the famous Ordnance Survey and a private firm. A top class item on West Cameroon exhibited by Britain is worthy of close examination.

The Federal Republic of Germany this year is not impressing, as usual, with the large quantity of plans, but with the quality of a few refined and challenging plans indicating minute details and combination of scopes.

U.S.A. participates with old and modern plans. Some comparisons are strongly recommended. U.S.A. impress with the colour variations employed and the excellent quality of the paper used.

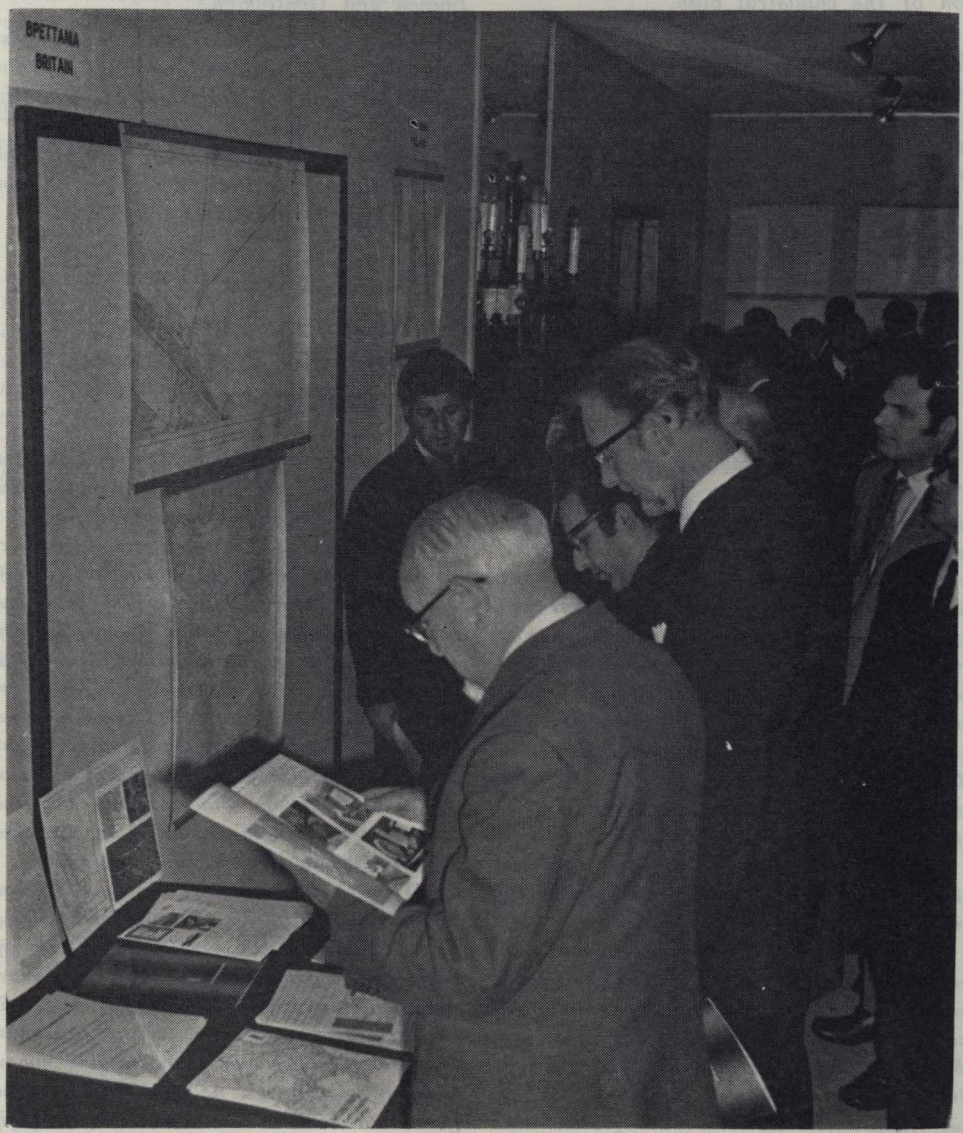
Israel participates with a large variety of maps some of which indicate regional planning and particularly the settlement pattern prevailing in the country. Some of the topocadastral plans are among the best exhibits. It is the only country showing in figures the exact size of plots on

the plan.

We are indebted to India for giving us the opportunity to observe some very interesting village plans. One of these plans indicates cultivation zones. Two original cadastral documents are exhibited for those concerned with the whole process of cadastral mapping.

Czechoslovakia, among others, exhibits a very interesting cadastral map combining morphology with ownership data. A highly interesting atlas of cadastral maps is also exhibited.

France fascinates the map interpreter



'Εκπρόσωποι ξένων Πρεσβειῶν ἐν Κύπρῳ συνοδευόμενοι ὑπὸ μελῶν τοῦ Διοικ. Συμβουλίου τοῦ Γ.Ο.Κ. περιεργάζονται τὰ ἐκθέματα τῆς Γ' Διεθνοῦς Χαρτογραφικῆς 'Εκθέσεως Κύπρου.

with the refined draftsmanship and the splendid choice of symbols. Many cartographic techniques and innovations are noticeable.

Lebanon exhibits three identical sheets indicating the technique employed and the whole procedure followed in the preparation of the cadastral plan.

Greece presents a variety of large-scale plans. Some successfully portray land use, relief and the ownership structure.

Two plans showing the situation before and after land consolidation are impressive.

Hungary is participating with a few plans characterised by subtle cartographic work. The collective or state farms are clearly indicated. Some of Hungary's plans deserve close study.

Lastly, Switzerland, as usual, is participating with a tremendous variety of top quality plans. Some do indicate the last word of cartography.

Ladies and Gentlemen,

We are indeed pleased because the most advanced and famous countries of the world in the field of cadastral cartography are participating in the Exhibition.

Thank you for defying the weather and responding to our invitation. I wish you will enjoy the exhibits,

Thank you.

3. Σύντομος προσφώνησις τοῦ Ὑπουργοῦ Δικαιοσύνης κ. Γεωργίου Ἰωαννίδη κατὰ τὸ ἄνοιγμα τῆς Γ΄ Διεθνοῦς Χαρτογραφικῆς Ἐκθέσεως Κύπρου.

Ἡ Γ΄ Διεθνὴς Χαρτογραφικὴ Ἔκθεσις Κύπρου, μὲ συμμετοχὴν 16 χωρῶν, ἀποτελεῖ ἓν σημαντικὸν γεγονὸς καὶ ἀξιόλογον ἐπίτευγμα τῶν δραστηριοτήτων τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου καὶ παρέχει εἰς τοὺς Κυπρίους τὴν εὐκαιρίαν νὰ γνωρίσουν τὴν πρόοδον ἄλλων χωρῶν εἰς τὸν τομέα τῆς κτηματικῆς χαρτογραφίας καὶ νὰ ἀνταλλάξουν τὴν ἐμπειρίαν των μετ' αὐτῶν, παραλλήλως δὲ νὰ κεντρίσῃ τὸ ἐνδιαφέρον τῆς πολιτείας καὶ παντὸς ἐνδιαφερομένου ἐν Κύπρῳ εἰς τὸν βασικὸν καὶ οὐσιώδη διὰ τὴν ἀνάπτυξιν τοῦ τόπου μας τεχνικὸν καὶ ἐπιστημονικὸν αὐτὸν τομέα.

Κατὰ τὸν Στράβωνα καὶ τὸν Ἡρόδοτον οἱ πρῶτοι κτηματικοὶ χάρται παρήχθησαν εἰς τὴν Αἴγυπτον καὶ τὴν Μεσοποταμίαν.

Ἔκτοτε ὁ κλάδος οὗτος ἀνεπτύχθη σημαντικῶς καὶ σήμερον οἱ κτηματικοὶ χάρται καὶ τὰ σχέδια χρησιμοποιοῦνται ἐπαρκῶς καὶ συνεχῶς διὰ πλείστας ὅσας ἀνάγκας, ἰδιωτικὰς καὶ κρατικάς, ὡς ἄλλωστε συμβαίνει καὶ εἰς Κύπρον, ἰδιαιτέρως δὲ εἰς τὸν καταρτισμὸν μελετῶν καὶ σχεδίων ἀναπτύξεως, καὶ παρέχουν πλεῖστα ὅσα ἀναγκαῖα καὶ ἀκριβῆ στατιστικὰ στοιχεῖα καὶ δεδομένα διὰ ἕνα ὑγιῆ καὶ ὑπεύθυνον προγραμματισμόν, ποὺ ἀποτελεῖ τὸν ἀκρογωνιαῖον λίθον διὰ τὴν οἰκονομικὴν καὶ κοινωνικὴν ἀνάπτυξιν καὶ πρόοδον ἑνὸς τόπου.

Οἱ κτηματικοὶ χάρται καὶ τὰ σχέδια, τὰ ὁποῖα θὰ ἀποτελέσουν τὸ κύριον ἔκθεμα τῆς παρούσης διεθνοῦς ἐκδηλώσεως, δεικνύουν τὴν ἰδιοκτησίαν τῆς γῆς καὶ ἐμφανίζουν τὴν ἐν γένει, ἀγροτικὴν καὶ ἀστικήν, δομὴν μιᾶς κοινωνίας, ὡς ἐκ τούτου δὲ δύνανται νὰ ἀποτελέσουν τὴν βάσιν τῆς ἀγροτικῆς καὶ ἀστικῆς σχεδιοποιήσεως εἰς πλείστους ὅσους τομεῖς, ὡς ἡ γεωργικὴ ἀνάπτυξις, ἡ βιομηχανία, ὁ τουρισμός, ὁ ἀναδασμός, ἡ πολεοδομία καὶ χωροταξία καὶ ἄλλοι τομεῖς, οἰκονομικῆς καὶ κοινωνικῆς ἀναπτύξεως.

Δι' αὐτὸ τεραστία σημασία δέον νὰ ἀποδίδεται εἰς τὸν τομέα αὐτόν, ὁ ὁποῖος διαρκῶς ἐξελίσσεται καὶ προοδεύει. Διὰ τῆς φωτογραμμετρίας σήμερον κατέστη δυνατὴ ἡ ταχεῖα παραγωγὴ καὶ ἐκσυγχρονισμὸς τῶν κτηματικῶν χαρτῶν, ἐνῶ εἰδικὰ ἀεροπλάνα δύνανται εἰς ἐλάχιστον χρονικὸν διάστημα νὰ λάβωσιν οἱονδήποτε ἀριθμὸν ἀεροφωτογραφιῶν διὰ τῶν ὁποίων καθίσταται εὐχερὴς καὶ δυνατὴ ἡ ἑτοιμασία σωρείας χαρτῶν καὶ σχεδίων, ἰδίως κτηματικῶν.

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου διὰ

τῶν ἐν γένει δραστηριοτήτων του, καὶ εἰδικῶς διὰ τῆς ὀργανώσεως τῆς παρούσης Διεθνοῦς Χαρτογραφικῆς Ἐκθέσεως, συμβάλλει εἰς τὴν διεθνῆ προβολὴν τῆς Κύπρου καὶ ἐπιτελεῖ ὑπεύθυνον καὶ ἐποικοδομητικὸν ἔργον καὶ τονίζει τὸν εὐεργετικὸν καὶ καρποφόρον ρόλον τῆς ἰδιωτικῆς πρωτοβουλίας εἰς τὴν συνεχῶς ἐξελισσομένην ταύτην ἐπιστήμην.

Δι' αὐτὸ καὶ εἶναι ἄξιος θερμοτάτων συγχαρητηρίων διὰ τὸ ὑπ' αὐτοῦ ἐπιτελούμενον ἀξιόλογον καὶ λαμπρὸν ἐπιστημονικὸν ἔργον, ὡς ἐπίσης καὶ ἡ Ὀργανωτικὴ Ἐπιτροπὴ διὰ τὴν ἀρτίαν ὀργάνωσιν τῆς διεθνοῦς αὐτῆς ἐκδηλώσεως.

Ἡ συμμετοχὴ ἱκανοῦ ἀριθμοῦ ξένων χωρῶν εἰς τὴν Ἔκθεσιν αὐτὴν ἀποτελεῖ διεθνῆ ἀναγνώρισιν τοῦ ἔργου τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου καὶ τονίζει τὸ διεθνὲς ἐνδιαφέρον διὰ τὸν ἐπιστημονικὸν τοῦτον τομέα.

Σᾶς προσκαλῶ τώρα ὅπως ἐπισκεφθῶμεν τὴν Ἔκθεσιν διὰ νὰ ἴδωμεν τὰ ἐκτιθέμενα κτηματικὰ σχέδια καὶ χάρτας τῶν 16 μετεχουσῶν χωρῶν.

4. Συμμετάσχουσαι χῶραι

(1) ΒΡΕΤΤΑΝΙΑ
(2) ΓΑΛΛΙΑ
(3) ΕΛΒΕΤΙΑ
(4) ΕΛΛΑΣ
(5) Η.Π.Α.
(6) ΙΝΔΙΑΙ
(7) ΙΣΡΑΗΛ
(8) ΚΥΠΡΟΣ
(9) ΟΛΛΑΝΔΙΑ
(10) ΟΜΟΣΠΟΝΔΟΣ ΓΕΡΜΑΝΙΑ
(11) ΟΥΓΓΑΡΙΑ
(12) ΠΟΡΤΟΓΑΛΛΙΑ
(13) ΤΣΕΧΟΣΛΟΒΑΚΙΑ
(14) ΦΙΛΛΑΝΔΙΑ
(15) ΕΘΝΙΚΙΣΤΙΚΗ ΚΙΝΑ
(16) ΛΙΒΑΝΟΣ

ΥΠΟΜΝΗΜΑΤΑ —ΕΙΣΗΓΗΣΕΙΣ —ΠΑΡΑΤΗΡΗΣΕΙΣ

1. Ἐφαρμογὴ τοῦ Ἀναδασμοῦ

23η Ἰανουαρίου, 1971.

1. Πρόεδρον Κυπριακῆς Δημοκρατίας καὶ Ὑψηλὸν Προστάτην Γ.Ο.Κ.,
2. Ὑπουργὸν Οἰκονομικῶν,
3. Ὑπουργὸν Γεωργίας,
4. Ὑπουργὸν Ἐσωτερικῶν,
5. Διευθυντὴν Γραφείου Βουλῆς Ἀντιπροσώπων (μὲ τὴν παράκλησιν ὅπως αὕτη κυκλοφορήσῃ μεταξὺ ὅλων τῶν Βουλευτῶν),
6. Γενικὸν Διευθυντὴν Γραφείου Προγραμματισμοῦ,
7. Πρόεδρον Ἀρχῆς Ἀναδασμοῦ,
8. Ἀρχηγοὺς Πολιτικῶν Κομμάτων,
9. Γενικοὺς Γραμματεῖς Γεωργικῶν Ὀργανώσεων.

Τὸ Διοικητικὸν Συμβούλιον τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου κατὰ τὴν τελευταίαν αὐτοῦ συνεδρίαν ἐμελέτησε διεξοδικῶς τὸ ὅλον θέμα τῆς ἐφαρμογῆς τοῦ ἀναδασμοῦ ἐν Κύπρῳ καὶ ἀπεφάσισεν ὁμοφώνως ὅπως ἐκφράσῃ τὴν ὑποστήριξίν του, ἀφ' ἑνὸς πρὸς τὴν Ἀρχὴν Ἀναδασμοῦ καὶ ἀφ' ἑτέρου πρὸς τὸ Ὑπουργεῖον Γεωργίας διὰ τὸ ἐπιτελεσθὲν μέχρι τοῦδε ἔργον.

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου θεωρεῖ τὸν ἀναδασμὸν ὡς τὸ περιεκτικώτερον ἀναπτυξιακὸν σχέδιον τῆς Κυπριακῆς Δημοκρατίας καὶ εἶναι πεπεισμένος ὅτι μέσῳ τοῦ σχεδίου αὐτοῦ θὰ ἐκσυγχρονισθῇ τὸ Κυπριακὸν ἀγροτικὸν τοπίον, καὶ θὰ ἀλλάξῃ ριζικῶς ἡ Γεωγραφία τῆς Κύπρου.

Ἡ Κύπρος εἶναι ἴσως ἡ μοναδικὴ χώρα εἰς τὸν κόσμον εἰς τὴν ὁποίαν ἡ ἐφαρμογὴ τοῦ ἀναδασμοῦ ἤρχισε τόσον ἡσύχως καὶ ἐπιτυχῶς πολλοὶ δὲ ξένοι εἰδικοὶ διερωτῶνται πῶς ἡ Κυπριακὴ Κυβέρνησις ἠδυνήθη εἰς τόσον σύντομον χρονικὸν διάστημα νὰ πείσῃ τόσα χωρία νὰ ἀποδεχθοῦν τὴν ἐφαρμογὴν τοῦ ὅλου σχεδίου. Πιστεύομεν ὅτι ἡ μέχρι τοῦδε ἐπιτυχία ὀφείλεται εἰς ἕνα μεγάλον βαθμὸν εἰς τὸν ἐνθουσιασμόν, τὸν ζῆλον, τὴν πίστιν καὶ τὴν ἐργατικότητα μερικῶν ὑπαλλήλων, τόσον τοῦ ἀνωτέρου ὅσον καὶ τοῦ κατωτέρου προσωπικοῦ τοῦ Ὑπουργείου Γεωργίας καὶ τῆς Ἀρχῆς Ἀναδασμοῦ.

Ἐν τούτοις, ὁ Γεωγραφικὸς Ὅμιλος Κύπρου πιστεύει, ὅτι πολλὰ ἐπιβάλλεται ἀκόμη νὰ γίνουν διὰ νὰ ἐξαπλωθῇ ἡ ἰδέα τοῦ ἀναδασμοῦ εἰς ὁλόκληρον τὴν Κύπρον καὶ νὰ ἐξασφαλισθῇ ἡ πλήρης ἐπιτυχία τοῦ σχεδίου. Ἡ Ἀρχὴ Ἀναδασμοῦ δὲν εἶναι ἐπαρκῶς ἐπηνδρωμένη, οὔτε καὶ πλήρως ἐφωδιασμένη μὲ τὸν κατάλληλον τεχνικὸν ἐξοπλισμόν. Ἄνω τοῦ 80% τοῦ προσωπικοῦ αὐτῆς ἐργάζεται ἐπὶ ἡμερομισθίας βάσεως ὁ δὲ ἐγκριθεὶς προϋπολογισμὸς αὐτῆς διὰ τὸ 1971 ἀποτελεῖ μόνον τὸ 1.7% τοῦ ὁλικοῦ ποσοῦ τοῦ διατεθησομένου διὰ γεωργικοὺς σκοπούς, ἐν ἀντιθέσει πρὸς ἄλλας χώρας τῆς Εὐρώπης ὅπου τὸ διατιθέμενον δι' ἐφαρμογὴν τοῦ ἀναδασμοῦ ποσὸν ἀνέρχεται εἰς τὸ 20% μέχρι 33% τοῦ ὁλικοῦ προϋπολογισμοῦ ἐπὶ τῆς γεωργίας.

Ἐν ὄψει τῶν ἀνωτέρω ὁ Γεωγραφικὸς Ὅμιλος Κύπρου,

(1) Καλεῖ τὴν Κυβέρνησιν ὅπως προωθήσῃ πλέον ἐνεργῶς τὴν ἐφαρμογὴν τοῦ ἀναδασμοῦ διὰ τῆς πλήρους ὑποστηρίξεως τοῦ ὅλου σχεδίου καὶ τῆς μονιμοποιήσεως τοῦ ὑπηρετοῦντος προσωπικοῦ. Εἶναι πράγματι ἐκπληκτικὸν καὶ ἀδιανόητον τὸ προσωπικὸν τὸ ὁποῖον ἀνέλαβε νὰ ὀργανώσῃ, προωθήσῃ καὶ ἐφαρμόσῃ ἓν τοιοῦτον μεγάλον καὶ δύσκολον ἔργον, νὰ εἶναι ἡμερομίσθιον καὶ νὰ ἐργάζεται ὑπὸ τὸ ἄγχος τῆς προσωρινότητος.

(2) Καλεῖ τοὺς Βουλευτὰς ὅπως προχωρήσουν εἰς σθεναρὰν ὑποστήριξιν τοῦ ὅλου σχεδίου ἀσκοῦντες ὅλην τὴν ἐπιρροήν των διὰ τὴν εὐόδωσιν τοῦ ὅλου ἔργου, συνειδητοποιοῦντες τὴν περιεκτικότητα τοῦ ἀναδασμοῦ ὅστις συνδυάζει τὴν ἐπίλυσιν πλείστων ὅσων ἐκ τῶν μεμονωμένων προβλημάτων τῆς Κυπριακῆς γεωργίας, ἅτινα κατὰ καιροὺς προσπαθεῖ νὰ ἐπιλύσῃ ἡ Κυπριακὴ Βουλή, ὡς τοῦ ἀρδευτικοῦ, τῶν ἀγροτικῶν δρόμων, τῶν ἐγγειοβελτιωτικῶν, τῆς ἀναδιαρθρώσεως τῶν καλλιεργειῶν, κ.ο.κ.

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου δράττεται τῆς εὐκαιρίας νὰ συγχαρῇ τὴν προηγουμένην Βουλὴν ἥτις ὀρθῶς ἐκτιμῶσα τὴν σημασίαν τοῦ ἀναδασμοῦ ἐψήφισε τὸν περὶ Ἀναδασμοῦ Νόμον καὶ ἐπέστρεψεν οὕτω εἰς τὴν Κύπρον νὰ εἰσέλθῃ εἰς τὴν μεγάλην ὁμάδα τῶν χωρῶν αἵτινες ἐφαρμόζουν τὸ σχέδιον τοῦτο, ἐν ἀντιθέσει πρὸς τὴν Εὐρωπαϊκὴν Τουρκίαν καὶ τὴν Πορτογαλλίαν αἵτινες, μόναι ἐξ ὅλων τῶν χωρῶν τῆς Εὐρώπης, δὲν ἔχουν εἰσέτι προχωρήσει εἰς τὴν ἐφαρμογὴν τοῦ ἀναδασμοῦ.

(3) Καλεῖ τὰ Πολιτικὰ Κόμματα, ἅτινα, σχεδὸν ἐν τῇ ὁλότητί των, ὑπεστήριξαν τὴν ἐφαρμογὴν τοῦ ἀναδασμοῦ κατὰ τὰς προεκλογικάς των ἐκστρατείας, ὅπως ἀρθοῦν εἰς τὸ ὕψος τῶν ὑποχρεώσεών των καὶ τιμήσουν τὴν ψῆφον τοῦ Κυπριακοῦ λαοῦ διὰ τῆς ἐκπληρώσεως τῶν ὑποσχέσεών των καὶ τῆς ἐνεργοῦ συμπαραστάσεως πρὸς τὰς προσπαθείας ἐφαρμογῆς καὶ ἐπιτυχίας τοῦ ἀναδασμοῦ.

(4) Καλεῖ τὰς Γεωργικὰς Ὀργανώσεις ὅπως διεκδικήσουν καὶ ὑποστηρίξουν τὴν ἐφαρμογὴν καὶ ἐπέκτασιν ἑνὸς τόσον περιεκτικοῦ καὶ φιλαγροτικοῦ σχεδίου ὡς ὁ ἀναδασμὸς ἀντὶ νὰ διεκδικοῦν ἐλάσσονος σημασίας παραχωρήσεις πρὸς τὸν γεωργικόν μας κόσμον.

(5) Καλεῖ πέλος τὸν ἀγροτικὸν κόσμον τῆς νήσου ὅπως ἐκτιμήσῃ ὀρθῶς τὰ προβλήματα αὐτοῦ καὶ πιστεύσῃ εἰς τὴν τεραστίαν σημασίαν τὴν ὁποίαν ἔχει διὰ τὴν γεωργικήν μας τάξιν τὸ ὅλον σχέδιον τοῦ ἀναδασμοῦ ὑποστηρίζων ἐνθέρμως καὶ μὲ ἐπιμονὴν τὴν ἐφαρμογὴν αὐτοῦ καθ' ἅπασαν τὴν νῆσον.

Περαίνων, ὁ Γεωγραφικὸς Ὅμιλος Κύπρου ἐπιθυμεῖ νὰ διακηρύξῃ διὰ μίαν εἰσέτι φορὰν τὴν σθεναρὰν ὑποστήριξίν του πρὸς τὸν ἀναδασμόν, εἶναι δὲ πέραν πάσης ἀμφιβολίας πεπεισμένος ὅτι ὁ πολυτεμαχισμὸς τῆς γῆς καὶ ἡ σημερινὴ ἀπηρχαιωμένη δομὴ τῆς Κυπριακῆς ἰδιοκτησίας ζημιώνουν τὴν χώραν μας πολλὰ ἑκατομμύρια λιρῶν κατ' ἔτος.

Ἔχει ὑπολογισθῇ ὅτι ἐκ μόνης τῆς καταργήσεως τῶν ὑφισταμένων συνόρων (ὄχθοι, θάμνοι, αὐλακες, λίθινοι τοῖχοι κλπ.) καὶ τῆς προσφορᾶς αὐτῶν πρὸς καλλιέργειαν ὡς καὶ ἐκ τῆς ἐξοικονομήσεως τοῦ χρόνου ὅστις διανύεται ἀδίκως ὑπὸ τῶν γεωργῶν πρὸς ἐπίσκεψιν τῆς πολυτεμαχισμένης καὶ σκορπισμένης αὐτῶν ἰδιοκτησίας, τὸ ἐτήσιον ὄφελος τὸ ὁποῖον θὰ προκύψῃ διὰ τὴν Κυπριακὴν γεωργίαν θὰ ἀνέλθῃ εἰς £6.5 περίπου ἑκατομμύρια λιρῶν.

Ἐὰν δὲ ὑπολογίσῃ κανεὶς καὶ τὴν αὔξησιν τοῦ καθαροῦ εἰσοδήματος τὴν προερχομένην ἐκ τῆς συνοδευούσης τὸν ἀναδασμὸν ἀναδιαρθρώσεως τῶν καλλιεργειῶν, ἥτις κυμαίνεται μεταξὺ 30—500%, ὡς καὶ τὴν προκύπτουσαν ὠφέλειαν ἐκ τῆς κατασκευῆς νέου ἀγροτικοῦ ὁδικοῦ δικτύου, ἐγγειοβελτιωτικῶν ἔργων, τῆς ἀποδόσεως πρὸς καλλιέργειαν ἐκτάσεων αἵτινες ἐπὶ τοῦ παρόντος παραμένουν ἀκαλλιέργητοι, τῆς μειώσεως τοῦ προσωπικοῦ ὡρισμένων Κυβερνητικῶν Τμημάτων κ.ο.κ., τότε δύναταί τις νὰ ἀντιληφθῇ τὴν τεραστίαν σημασίαν τοῦ ὅλου ἔργου τοῦ ἀναδασμοῦ ὡς καὶ τὴν ἀνάγκην διὰ καθολικὴν ὑποστήριξιν τοῦ ριζοσπαστικοῦ αὐτοῦ σχεδίου.

Α. ΣΟΦΟΚΛΕΟΥΣ
Γραμματεὺς
Διὰ Διοικητικὸν Συμβούλιον Γ.Ο.Κ.

2. Γεωγραφικὰ Γραμματόσημα

20η Φεβρουαρίου, 1971.

Ἐξοχώτατον
Ὑπουργὸν Συγκοινωνιῶν καὶ Ἔργων,
Λευκωσία.

Ἐξοχώτατε,

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου ἔχων ὑπ' ὄψιν ὅτι τὰ Κυπριακὰ γραμματόσημα συγκαταλέγονται μεταξὺ ἐκείνων ἅτινα μετ' ἐπιμονῆς ἀναζητοῦνται ὑπὸ τῶν διαφόρων, ἀνὰ τὸν κόσμον, φιλοτελιστῶν, λαμβάνει τὴν τιμὴν νὰ ἀπευθυνθῇ πρὸς Ὑμᾶς καὶ νὰ εἰσηγηθῇ τὰ ἀκόλουθα:

(1) Ἡ Κύπρος δύναται διὰ τῶν γραμματοσήμων αὐτῆς νὰ προβάλῃ εἰς τὸ διεθνὲς προσκήνιον οὐχὶ μόνον τοὺς φυσικοὺς πόρους καὶ τοὺς ἀρχαιολογικοὺς αὐτῆς θησαυροὺς ἀλλὰ καὶ αὐτοὺς ἀκόμη τοὺς σκοποὺς καὶ ἐπιδιώξεις της.

(2) Ὡς ἐκ τούτου, ὁ Γεωγραφικὸς Ὅμιλος Κύπρου εἰσηγεῖται ὅπως ἐκδοθῇ ἐντὸς τοῦ 1971 μία νέα σειρὰ ἐκ δύο γραμματοσήμων ἐπὶ τῶν ὁποίων νὰ ἀπεικονίζωνται τὰ κάτωθι:

(α) ἡ γεωγραφικὴ θέσις τῆς Κύπρου εἰς τὴν

Μέσην 'Ανατολήν, κυρίως δὲ μεταξὺ τῶν τριῶν ἠπείρων,

(β) χάρτης τῆς Κύπρου μὲ τὸν 35ον μεσημβρινὸν καὶ τὸν 35ον παράλληλον.

(3) 'Εὰν ἐκδοθῇ ὁ χάρτης — γραμματόσημον μὲ τοὺς παραλλήλους καὶ μεσημβρινοὺς ἡ Κύπρος θὰ συγκαταλέγηται μεταξὺ τῶν 15 χωρῶν ποὺ ἔχουν πράξει τοῦτο, ἐὰν δὲ δεικνύεται καὶ ἡ γραμμικὴ κλίμαξ εἰς μίλια (50 ἢ 100 μίλια) αὕτη θὰ εἶναι μεταξὺ τῶν 5 χωρῶν ποὺ ἐξέδωσαν τοιοῦτον γραμματόσημον.

(4) Πιστεύομεν ὅτι ἡ ὑπὸ τῆς Κυβερνήσεως προώθησις τῶν χαρτογραφικῶν γραμματοσήμων θὰ προβάλῃ σημαντικῶς τὴν νῆσον τόσον ἕνεκεν τῆς γεωγραφικῆς αὐτῆς θέσεως μεταξὺ Εὐρώπης, 'Ασίας καὶ 'Αφρικῆς, ὅσον καὶ ἕνεκεν τῆς τοποθεσίας αὐτῆς μεταξὺ πολιτικῶν, θρησκευτικῶν, ἐθνολογικῶν καὶ κοινονικο-οικονομικῶν ἀντιθέσεων.

'Ο Γεωγραφικὸς "Ομιλος Κύπρου θὰ εὑρίσκεται εἰς τὴν διάθεσιν Ὑμῶν διὰ περισσοτέρας ἐπεξηγήσεις καὶ πληροφορίας ἐπὶ τοῦ ὅλου θέματος.

Μετὰ πάσης τιμῆς
Γ. ΚΑΡΟΥΖΗΣ
Πρόεδρος

Κοιν.: Μακαριώτατον Πρόεδρον Κυπριακῆς Δημοκρατίας,
Διευθυντὴν Τμήματος Ταχυδρομείου.

3. Παροχὴ χαλίτικης γῆς διὰ Δασύλλιον

12η Μαρτίου, 1971.

'Εξοχώτατον κ. Ὑπουργὸν 'Εσωτερικῶν,
Λευκωσία.

'Εξοχώτατε,

'Ο Γεωγραφικὸς "Ομιλος Κύπρου, ἐν τῇ προσπαθείᾳ του ὅπως συμβάλῃ εἰς τὴν διατήρησιν τοῦ Φυσικοῦ Περιβάλλοντος τῆς Κύπρου, λαμβάνει τὴν τιμὴν νὰ ζητήσῃ τὴν Ὑμετέραν συμπαράστασιν διὰ τὴν ἀκόλουθον πρωτοβουλίαν.

'Ως γνωρίζετε, ἐπὶ τῆς κυρίας ὁδοῦ Λευκωσίας —Λεμεσοῦ καὶ παρὰ τὸν 16ον μιλιοδείκτην ὑφίσταται ξηρὰ καὶ γυμνὴ ἔκτασις χαλίτικης γῆς (φύλλον/σχέδιον XXXIX/40, περιοχὴ Κούκκουλος). Παρακαλεῖσθε ὅπως παράσχητε ἄδειαν πρὸς τὸν Γεωγραφικὸν "Ομιλον Κύπρου, ἵνα περιφράξῃ, δενδροφυτεύσῃ καὶ ἐξωραΐσῃ ἔκτασιν 15 ἕως 30 σκαλῶν ἐπὶ τῆς περὶ οὗ ὁ λόγος περιοχῆς, δι' ἰδίων ἐξόδων αὐτοῦ. 'Η ἔκτασις θὰ ἐξακολουθήσῃ νὰ παραμένῃ Κυβερνητικὴ ὁ δὲ Γεωγραφικὸς "Ομιλος Κύπρου θὰ ἔχῃ τὴν εὐθύνην συντηρήσεως καὶ ἐξωραϊσμοῦ αὐτῆς.

Εὐελπιστοῦμεν ὅτι θὰ ἐπιτρέψητε εἰς τὸν Γ.Ο.Κ. νὰ πραγματοποιήσῃ τὴν ἀνιδιοτελῆ αὐτὴν πρωτοβουλίαν, ἥτις, ἐὰν ὑλοποιηθῇ, πολλὰ δύναται νὰ προσφέρῃ εἰς τὸν ἐξωραϊσμὸν τοῦ Κυπριακοῦ τοπίου, ἐνῶ παραλλήλως θὰ παραδειγματίσῃ καὶ ἄλλους 'Ιδιωτικοὺς 'Οργανισμοὺς καὶ 'Ομίλους διὰ νὰ ἀναλάβουν παρομοίας φύσεως δραστηριότητας.

'Επισυνάπτεται κτηματολογικὸν σχέδιον ἐπὶ τοῦ ὁποίου εἶναι χρωματισμένη ἡ περὶ οὗ ὁ λόγος περιοχὴ ἥτις ζητεῖται διὰ ἀναδάσωσιν καὶ ἐξωραϊσμόν.

Μετὰ βαθυτάτης ὑπολήψεως
Γ. ΚΑΡΟΥΖΗΣ
Πρόεδρος

Κοιν.: Γενικὸν Διευθυντήν,
'Υπουργείου Γεωργίας καὶ Φυσικῶν Πόρων,

Διευθυντὴν Τμήματος Κτηματολογίου καὶ Χωρομετρίας,

Διευθυντὴν Τμήματος Δασῶν.

4. Ἀπόσπασις Διδασκάλων εἰς τὴν Μέσην Παιδείαν

24η Μαΐου, 1971

Ἐξοχώτατον
Ὑπουργὸν Παιδείας
κ. Φρ. Πετρίδην,
Ὑπουργεῖον Παιδείας,
Λευκωσία.

Ἐξοχώτατε,

Ἐπιθυμῶ νὰ διαβιβάσω ὑμῖν τὰ ἀκόλουθα ἀναφορικῶς μὲ τὴν διδασκαλίαν τοῦ μαθήματος τῆς Γεωγραφίας ὑπὸ προσοντούχων ἐκπαιδευτικῶν εἰς Σχολὰς Μέσης Ἐκπαιδεύσεως.

Ὡς καλῶς γνωρίζετε, καὶ αὐτὸ συνεζητήθη κατὰ τὴν πρόσφατον συνάντησίν μας εἰς τὸ γραφεῖον σας, ὑπάρχει τεραστία ἔλλειψις ἐκπαιδευτικῶν — γεωγράφων εἰς τὸ ὑμέτερον Ὑπουργεῖον, οἱ διοριζόμενοι δὲ φυσιογνῶσται διὰ τὴν διδασκαλίαν τοῦ μαθήματος τούτου θεωροῦνται κατάλληλοι μόνον διὰ τὴν φυσικὴν πλευρὰν τοῦ σοβαροῦ καὶ συνθετικοῦ αὐτοῦ θέματος, ὑστεροῦν δὲ εἰς τὸ οἰκονομικόν, κοινωνικόν, πολιτικόν, δημογραφικόν, ἱστορικὸν καὶ χαρτογραφικὸν πεδίον τῆς ἐπιστήμης τῆς Γεωγραφίας.

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου, ἐν τῇ προσπαθείᾳ του ὅπως προαγάγῃ τὴν γεωγραφικὴν γνῶσιν καὶ ἔρευναν ἐν Κύπρῳ καὶ προφοδοτήσῃ τὸ ὑμέτερον Ὑπουργεῖον μὲ γεωγραφικὸν δυναμικόν, ἀπὸ ἔτους τώρα ὠργάνωσεν εἰδικὴν σειρὰν μαθημάτων, διώρισε δὲ ξένους γεωγράφους πλήρως κατηρτισμένους διὰ τὴν διδασκαλίαν μαθημάτων ἅτινα ὁδηγοῦν εἰς τὴν ἀπόκτησιν τοῦ Διπλώματος Γεωγραφίας ποῦ Πανεπιστημίου τοῦ Λονδίνου.

Μεταξὺ τῶν δεκαοχτὼ φοιτητῶν, οἵτινες παρακολουθοῦν τὰ μαθήματα ταῦτα, δεκατέσσαρες δημοδιδάσκαλοι ἐξέφρασαν τὴν ἐπιθυμίαν ὅπως διορισθῶσιν εἰς Σχολὰς Μέσης Ἐκπαιδεύσεως καὶ ἀναλάβουν τὴν διδασκαλίαν τοῦ μαθήματος τῆς Γεωγραφίας εἰς αὐτά. Μεταξὺ τῶν φοιτητῶν αὐτῶν περιλαμβάνονται διδάσκαλοι οἵτινες ἔχουν ἤδη διακριθῆ εἴτε εἰς τὴν συγγραφὴν γεωγραφικῶν βιβλίων, εἴτε εἰς τὴν προετοιμασίαν σοβαρῶν μελετῶν ἐπὶ τοῦ θέματος τῆς Γεωγραφίας. Τινὲς τούτων ἔχουν παρακολουθήσῃ ἐπὶ διετίαν ἢ τριετίαν μαθήματα τοῦ ἐπιπέδου τοῦ Διπλώματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Λονδίνου. Εἷς δὲ ἐξ αὐτῶν παρηκολούθησεν ἐπὶ ἓν ἔτος μαθήματα Γεωγραφίας καὶ Γεωλογίας εἰς Κολλέγιον τῆς Μ. Βρεττανίας.

Θὰ εἴμεθα πάντοτε εἰς πὴν διάθεσίν σας διὰ νὰ παράσχωμεν ὑμῖν πληροφορίας ὅσον ἀφορᾷ τὰς διαλέξεις τὰς ὁποίας παρηκολούθησαν, τὴν ὕλην τὴν ὁποίαν ἐκάλυψαν, τὰς ὑπαιθρίους μελέτας τὰς ὁποίας παρηκολούθησαν, τὸ εἰδικὸν ἐνδιαφέρονν τὸ ὁποῖον ἐπέδειξαν ὡς καὶ οἱασδήποτε ἄλλας συναφεῖς πληροφορίας.

Ἐξοχώτατε,

Τόσον ὁ Πρόεδρος ὅσον καὶ τὸ Διοικητικὸν Συμβούλιον τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου θὰ εὑρίσκωνται εἰς τὴν διάθεσίν σας ἀνὰ πᾶσαν στιγμήν.

Μετ' ἐξαιρέτου τιμῆς
Γ. ΚΑΡΟΥΖΗΣ
Πρόεδρος.

5. Ὁ ὅρος «Γεωγραφικὸς»

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου, συναισθανόμενος τὴν ὑψηλὴν αὐτοῦ ἀποστολὴν καὶ λαμβάνων σοβαρῶς ὑπ' ὄψιν τὰς κατὰ καιροὺς δηλώσεις διαφόρων παραγόντων εἰς τὰς ὁποίας συσχετίζεται ὁ ὅρος «γεωγραφικὸς» μὲ τὸ πολιτικὸν θέμα τῆς Κύπρου, ἐπιθυμεῖ νὰ προβῇ εἰς ὡρισμένας διασαφηνίσεις ἐν ὄψει τοῦ γεγονότος ὅτι ὁ ὅρος αὐτὸς χρησιμοποιεῖται λανθασμένως καὶ παραπλανητικῶς.

Ἡ Γεωγραφία, ὡς παγκοσμίως σήμερον ἀναγνωρίζεται, ἔχει εὐρεῖαν περιεκτικότητα εἶναι δὲ ἡ σύνθετος Ἐπιστήμη ἡ διαπραγματευομένη πὸ περιβάλλον καὶ τὴν σχέσιν αὐτοῦ πρὸς τὸν ἄνθρωπον. Ὅθεν, ὁ ὅρος «γεωγραφικὸς» συνίσταται ἐκ πολλῶν μερῶν καὶ περιλαμβάνει φυσικάς, οἰκονομικάς, κοινωνικάς, πολιτικάς, ἱστορικάς, ἐθνολογικὰς καὶ δημογραφικὰς πτυχάς.

Ἡ ἀπομόνωσις μιᾶς ἐκ τῶν πτυχῶν τούτων, ὡς τῆς φυσικῆς ἢ ἀκόμη μιᾶς ὑποδιαιρέσεως αὐτῆς, ὡς τῆς ἐδαφολογίας ἢ τῆς γεωλογίας τοῦ ποπίου καὶ ἡ χρησιμοποίησις αὐτῆς καὶ μόνης ὡς ἀντιπροσωπευούσης τὸν ὅρον «γεωγρα-

φικὸς» εἶναι ἐπιστημονικῶς ἀπαράδεκτος.

Ἡ φράσις ἡ «Κύπρος γεωγραφικῶς ἀνήκει εἰς τὴν Τουρκίαν» εἶναι ἐπιστημονικῶς λανθασμένη, προδίδει δὲ ἔλλειψιν γνώσεως καὶ σεβασμοῦ πρὸς τὴν μεγάλην Ἐπιστήμην τῆς Γεωγραφίας.

6. Ἔκθεσις, ὑποβληθεῖσα εἰς τὴν Συμβουλευτικὴν Ἐπιτροπὴν Γραφείου Ἐξευρέσεως Ἐργασίας ἐπὶ τῶν ἀναγκῶν τῆς Κύπρου εἰς γεωγραφικὸν δυναμικόν

Ὑπὸ Γ. ΚΑΡΟΥΖΗ, Προέδρου Γ.Ο.Κ.,
Ν. ΓΕΩΡΓΙΑΔΗ, Ἀντιπροέδρου, Γ.Ο.Κ.

Ἡ Ἐπιστήμη τῆς Γεωγραφίας ἀσχολεῖται μὲ τὸ περιβάλλον καὶ τὴν σχέσιν αὐτοῦ πρὸς τὸν ἄνθρωπον. Ἡ ἀλληλοεπίδρασις ἀνθρώπου — περιβάλλοντος εἶναι τὸ πρώτιστον μέλημα τοῦ ἐπιστήμονος — γεωγράφου, ὅστις ἀπαιτεῖται νὰ κατέχῃ εὐρεῖαν μόρφωσιν διὰ νὰ δυνηθῇ νὰ ἐξετάσῃ ἀπὸ ὅλας τὰς πτυχὰς τόσον τὸ περιβάλλον (φυσικόν, οἰκονομικόν, κοινωνικόν, πολιτικόν, δημογραφικὸν κλπ.) ὅσον καὶ τὸν ἄνθρωπον (ἀνεπτυγμένον ἢ ὑπὸ ἀνάπτυξιν, μὲ μακρὰν ἱστορίαν καὶ παράδοσιν ἢ μόλις χειραφετηθέντα ἐκ τῶν φυσικῶν αὐτοῦ δεσμῶν κ.ο.κ.).

Ὅπως ὁ βοτανολόγος μελετᾷ τὸ φυτόν, ὁ ζωολόγος τὸ ζῷον, ὁ χημικὸς τὴν οὐσίαν, οὕτω καὶ ὁ γεωγράφος μελετᾷ τὸ τοπίον, τὸν χῶρον, τὸ περιβάλλον. Αὐτὸ τὸ σύνθετον τοπίον ἐν τῇ ὁλότητί του δὲν τὸ μελετᾷ ἄλλος ἐπιστήμων. Θεωρεῖται ἡ γεωγραφία ὡς ὁ συνδετικὸς κρίκος μεταξὺ Τέχνης καὶ Ἐπιστήμης, εἶναι δὲ ταὐτοχρόνως θεωρητικὸν καὶ πρακτικὸν θέμα. Ἅπτεται ἀμέσως τόσον τῶν καλουμένων θετικῶν ἐπιστημῶν ὡς Μαθηματικῶν, Γεωλογίας, Φυσικῆς, Βιολογίας κ.ο.κ. ὅσον καὶ τῶν ἀνθρωπιστικῶν τοιούτων, ἤτοι Ἱστορίας, Κοινωνιολογίας, Οἰκονομικῶν, Πολιτικῆς κλπ. ὁ δὲ Kant ἐπίστευε ὅτι ἡ Γεωγραφία εἶναι ἡ σπουδαιοτέρα τῶν Φυσικῶν Ἐπιστημῶν. Ἄλλοι δὲ φιλόσοφοι ἐχαρακτήρισαν τὴν Γεωγραφίαν ὡς τὴν Μητέρα τῶν Ἐπιστημῶν.

Εἰς μίαν ἐποχὴν κατὰ τὴν ὁποίαν τὰ περισσότερα καὶ μεγαλύτερα ἀναπτυξιακὰ σχέδια λαμβάνουν χώραν ἐπὶ τοῦ τοπίου (πολεοδομικά, γεωργικά, βιομηχανικά, τουριστικὰ κλπ.) ἡ θέσις τοῦ γεωγράφου — ἐπιστήμονος ἀποκτᾷ ἰδιαιτέραν αἴγλην καὶ δὲν εἶναι ἐκπληκτικὸν τὸ γεγονὸς ὅτι εἰς ὅλας τὰς ἀνεπτυγμένας χώρας τοῦ κόσμου ἡ ὁμὰς μελέτης καὶ προγραμματισμοῦ ὅλων τῶν σχεδίων περιλαμβάνει ἀναποφεύκτως ἕνα ἢ καὶ περισσοτέρους γεωγράφους, οἵτινες πολλάκις καθίστανται οἱ ἀρχηγοὶ καὶ οἱ συντονισταὶ τῆς ὅλης ἐργασίας. Ἡ παρουσία τοῦ γεωγράφου θεωρεῖται ἀπαραίτητος εἰς σχέδια περιφερειακοῦ προγραμματισμοῦ διότι καὶ αὐτὸς ἀκόμη ὁ ἀρχικὸς καθορισμὸς τῆς «περιφερείας» εἶναι ἔργον γεωγραφικόν.

Εἰς θέματα διατηρήσεως τοῦ φυσικοῦ περιβάλλοντος εἶναι διεθνῶς παραδεδεγμένον ὅτι ἡ γεωγραφία καὶ ἡ οἰκολογία ἀποτελοῦν τὰ καλύτερα προσόντα. Ἰδιαιτέρως δὲ ὁ εἰδικὸς ὅστις συνεβούλευσε τὴν Κυπριακὴν Δημοκρατίαν ἐπὶ θεμάτων διατηρήσεως τοῦ Κυπριακοῦ περιβάλλοντος τονίζει τὴν ἀνάγκην ἐργοδοτήσεως γεωγράφων διὰ τὸν σκοπὸν αὐτόν.

Εἰς τὴν πολεοδομίαν (ἀστικοὶ καὶ ἀγροτικοὶ οἰκισμοὶ) ἡ συνεισφορὰ τῶν γεωγράφων εἶναι οὐσιώδης. Δὲν ὑπάρχει εἰς Βρεττανίαν πολεοδομικὸν τμῆμα τὸ ὁποῖον νὰ μὴ ἀπασχολῇ ὄχι ἕνα ἀλλὰ πολλοὺς γεωγράφους.

Εἰς ὅλα τὰ χαρτογραφικὰ Κυβερνητικὰ ἢ ἰδιωτικὰ τμήματα ὁ ρόλος τῶν γεωγράφων εἶναι σημαντικώτατος, διότι εἶναι οἱ μόνοι ἐπιστήμονες οἵτινες συγχρόνως βλέπουν καὶ ἀναγινώσκουν τὰ φυσικὰ καὶ ἀνθρώπινα φαινόμενα ἐπὶ τῆς γηΐνης ἐπιφανείας, ἅτινα δέον νὰ ἀπεικονίζωνται ἐπὶ τοῦ χάρτου μικρᾶς ἢ μεγάλης κλίμακος.

Ἀρίστη γνῶσις χαρτογραφίας θεωρεῖται ἀπαραίτητον προσὸν διὰ τὸν γεωγράφον. Ὅπως ὁ διηγηματογράφος χρησιμοποιεῖ τὰς λέξεις, ὁ μαθηματικὸς τοὺς ἀριθμούς, οὕτω καὶ ὁ γεωγράφος χρησιμοποιεῖ τοὺς χάρτας οἱ ὁποῖοι ἀποτελοῦν τὸ ἐργαλεῖον του.

Χάρται οἵτινες ἡτοιμάσθησαν ὑπὸ οἴκων οἵτινες δὲν διαθέτουν γεωγράφους, συνήθως στεροῦνται λεπτότητος, λεπτομερείας καὶ μεγάλης ἀκριβείας. Δέον νὰ σημειωθῇ ὅτι ἡ προετοιμασία Ἐθνικῶν Ἀτλάντων ὡς καὶ ἄλλων διοικητικῶν ἢ περιφερειακῶν ἀτλάντων ἀνατίθεται

συνήθως εἰς γεωγράφους, οἵτινες θεωροῦνται οἱ καταλληλότεροι διὰ τὴν συλλογήν, ταξινόμησιν καὶ ἀνάλυσιν γεωγραφικῶν στοιχείων.

Λόγῳ τῆς περιεκτικότητος τοῦ θέματος τῆς Γεωγραφίας οἱ γεωγράφοι θεωροῦνται ἰδεώδεις διὰ προετοιμασίαν καὶ ἐφαρμογὴν ἐρωτηματολογίων δι' ἀνάληψιν ἐρεύνης. Εἰς τὰς Η.Π.Α. γίνεται μεγάλη χρῆσις γεωγράφων εἰς τὸν τομέα ἐρεύνης ὑπὸ μεγάλων ἐμπορικῶν καὶ βιομηχανικῶν οἴκων.

Ἡ προσφορὰ τῶν γεωγράφων εἰς τὴν Ἐκπαίδευσιν ὡς καθηγητῶν γεωγραφίας εἶναι γνωστὴ καὶ δὲν χρειάζεται περαιτέρω διευκρίνισις. Εἰς τὴν Κύπρον δυστυχῶς δὲν διαθέτομεν ἀρκετοὺς γεωγράφους — καθηγητὰς διὰ τὰ σχολεῖα Μέσης Ἐκπαιδεύσεως. Συχνάκις τὸ μάθημα τῆς Γεωγραφίας ἀνατίθεται εἰς καθηγητὰς Γυμναστικῆς, εἰς Φιλολόγους, Μουσικοὺς καὶ καθηγητρίας οἰκοκυρικῶν.

Εἰς θέματα Ἀγροτικῆς μεταρρυθμίσεως, ἀναδασμοῦ, διακατοχῆς γῆς καὶ χρήσεως γῆς ἀναδείχθησαν εἰς ὁλόκληρον τὸν κόσμον μεγάλαι προσωπικότητες αἵτινες εἶχον τὰς ρίζας τῆς μορφώσεώς των εἰς τὴν Γεωγραφίαν. Μία τοιαύτη φυσιογνωμία διεθνοῦς ἀκτινοβολίας εἶναι ἐκείνη τοῦ ἄρτι ἀποβιώσαντος Βρεττανοῦ γεωγράφου **Dudley Stamp**.

Εἰς τὸν πολιτικὸν τομέα ἡ Ἀμερικὴ χρησιμοποιεῖ εἰς πολλὰς πρεσβείας της γεωγραφικοὺς ἀκολούθους πολλοὶ δὲ γεωγράφοι ἀνεδείχθησαν πολιτικοὶ ὁλκῆς, ἰδιαιτέρως ὅσοι εἰδικεύθησαν εἰς τὴν ἱστορικὴν ἢ πολιτικὴν γεωγραφίαν. Τὸ **State Department** ἀπασχολεῖ σημαντικὸν ἀριθμὸν γεωγράφων.

Εἰς τὴν Ὁλλανδίαν οἱ γεωγράφοι διαδραματίζουν σημαίνοντα ρόλον εἰς τὴν ἀποξήρανσιν καὶ ἐποίκησιν τῶν νέων ἐδαφῶν ποὺ καταλαμβάνουν ἐκ τῆς θαλάσσης.

Μερικοὶ γεωγράφοι, οἵτινες ἐξεπαιδεύθησαν εἰς τὴν κλιματολογίαν, μετεωρολογίαν, ἐδαφολογίαν, γεωμορφολογίαν, ὑδρολογίαν, ὠκεανογραφίαν, φυσικὴν βλάστησιν, συγκοινωνίαν κλπ. ἔχουν προσφέρει πολυτίμους ὑπηρεσίας εἰς τὰς χώρας των, διότι συνεδύασαν τὰς ἐπιστήμας αὐτὰς μὲ τὴν γνῶσιν τοῦ γεωγραφικοῦ χώρου. Οἱ διεθνεῖς Ὀργανισμοὶ ὡς ἡ ΦΑΟ, ἡ ΟΥΝΕΣΚΟ κλπ. ἐργοδοτοῦν σημαντικὸν ἀριθμὸν γεωγράφων, οἵτινες εἰδικεύθησαν εἰς ἓν τῶν ἀνωτέρω θεμάτων.

Εἰς τὸν Τουρισμόν, εἰς πολλὰς χώρας τοῦ κόσμου, ἡ Γεωγραφία εἶναι περιζήτητον θέμα, εἰς πολλὰ δὲ πανεπιστήμια ἀνεπτύχθησαν εἰδικὰ θέματα ὡς Τουριστικὴ Γεωγραφία ἢ Γεωγραφία τοῦ Τουρισμοῦ.

Γενικῶς δύναται νὰ λεχθῇ ὅτι ὁ γεωγράφος ἀναλόγως τῆς εἰδικότητός του δύναται νὰ προσφέρῃ τὰ μέγιστα εἰς τὴν πατρίδα του, εἰς δὲ διάσημος γεωγράφος ἐχαρακτήρισε τὴν γεωγραφίαν ὡς τὸ «κλειδὶ πρὸς πολλὰς καρριέρας». Εἰς τὴν Κύπρον οἱ γεωγράφοι εἶναι ἄκρως ἀπαραίτητοι εἰς τὴν Ἐκπαίδευσιν, τὴν Πολεοδομίαν, Τουρισμόν, Χρῆσιν γῆς, Ἀναδασμόν, τὴν Διατήρησιν τοῦ Φυσικοῦ Περιβάλλοντος, εἰς τὰ Τμήματα τὰ ἀσχολούμενα μὲ Χαρτογραφήσεις κ.ο.κ. ἄνευ δὲ τῆς ἐργοδοτήσεώς των θὰ ὑπάρξουν πολλὰ κενὰ εἰς τὴν σχεδιοποίησιν πολλῶν σχεδίων καὶ ἐπίλυσιν πολλῶν προβλημάτων. Ἤδη ὁ Γεωγραφικὸς Ὅμιλος Κύπρου εἶναι εἰς θέσιν νὰ ὑποδείξῃ ἀπειράριθμα λάθη τῶν διαφόρων σχεδίων, ἀποφεύγει ὅμως τὴν ἀπ' εὐθείας κριτικὴν διὰ λόγους σκοπιμότητος καὶ προσπαθεῖ διὰ πλαγίου τρόπου νὰ ὁδηγήσῃ εἰς τὸν εὐθὺ δρόμον τὸν προγραμματισμὸν τῆς ἀνόδου καὶ εὐημερίας τοῦ Κυπριακοῦ λαοῦ.

Ἀλλὰ καὶ δι' ἐκείνους ποὺ θεωροῦν τὴν γεωγραφίαν ὡς θέμα ἀκαδημαϊκῆς μορφώσεως ἡ Γεωγραφία δύναται νὰ ἱκανοποιήσῃ καὶ τὰ πλέον ἀπαιτητικὰ καὶ περίεργα μυαλά.

Πέρασε ὁ καιρὸς ποὺ ἡ Γεωγραφία ἐθεωρεῖτο ἁπλὸν καὶ εὔκολον θέμα. Σήμερον μερικὰ θέματα τῆς γεωγραφίας ὡς ἡ γεωμορφολογία, ἡ ἐδαφολογία, ἡ μετεωρολογία κλπ. θεωροῦνται ὡς πολὺ δύσκολα καὶ δὲν προσφέρονται οὔτε διὰ τὸν νωθρὸν μυαλόν, ἀλλὰ οὔτε καὶ δι' ἕνα μέτριον ἀκόμη εἰς νοημοσύνην πρόσωπον.

Εἰς Κύπρον ἡ ἐπιστήμη τῆς Γεωγραφίας ἦτο σχεδὸν τελείως ἄγνωστος μέχρι τοῦ 1968, ὅτε ἱδρύθη ὁ Γ.Ο.Κ. Ὁ κυριώτερος λόγος τοῦ παραμελισμοῦ τῆς γεωγραφίας ὡς ἐπιστήμης εἰς Κύπρον καὶ τῆς ἐλλείψεως γεωγράφων ὠφείλετο — καὶ ὀφείλεται εἰς τὸ ὅτι ἐν Ἑλλάδι, ὅπου σπουδάζουν πληθώρα Κυπρίων, δὲν ὑπάρχει ἕδρα Γεωγραφίας εἰς τὰ ἐκεῖ Πανεπιστήμια, ἐνῶ ἀντιθέτως εἰς ὅλας τὰς λοιπὰς χώρας τῆς Εὐρώπης διδάσκεται ἡ γεωγραφία ὡς ἰδιαίτερος κλάδος εἰς τὰ Πανεπιστήμια. Αἱ πλέον προηγμέναι χῶραι αἱ ἔχουσαι παράδοσιν εἰς τὴν διδασκαλίαν τῆς ἐπιστήμης αὐτῆς εἶναι τὸ Ἡν. Βασίλειον, ἡ Γαλλία, ἡ Γερμανία, ἡ Σοβιετικὴ Ἕνωσις καὶ αἱ Η.Π.Α.

Διὰ τοὺς Κυπρίους, οἵτινες ἐνδιαφέρονται νὰ σπουδάσουν γεωγραφίαν δὲν ὑπάρχει καμμία δυσκολία, εἰς χώρας τῆς Εὐρώπης, πλὴν τοῦ Ἡν. Βασιλείου ὅπου ἀπαιτοῦνται τὰ θέματα G.C.E. Ἀρκεῖ νὰ κατέχουν τὴν γλῶσσαν τῆς χώρας εἰς ἣν προτίθενται νὰ σπουδάσουν. Δὲν ὑπάρχουν εἰσαγωγικαὶ ἐξετάσεις, ἀναγνωριζομένου, δι' εἰσαγωγήν, τοῦ ἀπολυτηρίου Γυμνασίου.

Αἱ πλησιέστεραι πρὸς τὴν Κύπρον ἀνεγνωρισμέναι Σχολαὶ Γεωγραφίας εἶναι τῶν Πανεπιστημίων τῆς Ἱερουσαλήμ, Τὲλ-Ἀβὶβ καὶ τοῦ Γαλλικοῦ Ἰνστιτούτου Γεωγραφίας τῆς Βηρυτοῦ.

Τὸ γεγονὸς ὅτι σήμερον ἐργάζονται εἰς Κύπρον πέραν τῶν 10—15 ξένων γεωγράφων εἶναι ἐνδεικτικὸν τῆς ἐλλείψεως Κυπρίων γεωγράφων. Ἡ γνώμη τοῦ Γ.Ο.Κ. εἶναι ὅπως ἡ Συμβουλευτικὴ Ἐπιτροπὴ τοῦ Γραφείου Εὑρέσεως Ἐργασίας προχωρήσῃ μὲ τὴν σύστασιν παραχωρήσεως τοὐλάχιστον 30 ὑποτροφιῶν ἀπὸ τὸ τρέχον ἔτος. Μὲ τὴν πάροδον τοῦ χρόνου ὅλα τὰ ἀναφερόμενα Κυβερνητικὰ Τμήματα ὡς καὶ ὁ ἰδιωτικὸς τομεὺς θὰ ἀντιληφθοῦν τὴν ἀνάγκην τῶν Γεωγράφων.

Ἀναλυτικῶς κατὰ τὴν γνώμην τοῦ Γ.Ο.Κ. αἱ ἀνάγκαι τῆς Κύπρου εἰς Γεωγράφους διὰ τὴν πενταετίαν 1970—1975 εἶναι αἱ ἀκόλουθοι:

		Ἀριθμὸς
1.	Ὑπουργεῖον Παιδείας (Καθηγηταὶ Γεωγραφίας Σχολῶν Μέσης Ἐκπαιδεύσεως, Παιδαγωγικὴ Ἀκαδημία, Ἐπιθεωρηταὶ Σχολῶν Μέσης Ἐκπαιδεύσεως, Ὀργανωταὶ Γεωγραφίας εἰς Σχολεῖα Στοιχειώδους Ἐκπαιδεύσεως, Κέντρον Ἐπιστημονικῶν Μελετῶν κλπ.) (Ὑπάρχουν σήμερον εἰς Κύπρον περίπου 100 Σχολαὶ Μέσης Ἐκπαιδεύσεως, δημόσιαι καὶ ἰδιωτικαί, Ἑλληνικαὶ καὶ Τουρκικαί. Κατὰ μέσον ὅρον ὑπολογίζεται εἷς γεωγράφος διὰ κάθε σχολεῖον. Μὲ τὴν ἐφαρμογὴν τῆς δωρεὰν ὑποχρεωτικῆς παιδείας μέχρι τὸ 15ον ἔτος τῆς ἡλικίας αἱ ἀνάγκαι εἰς καθηγητὰς γεωγραφίας θὰ αὐξηθοῦν, ἐφ' ὅσον αἱ κατώτεραι τάξεις θὰ διδάσκωνται γεωγραφίαν).	150
2.	Τουρισμὸς	10
3.	Διατήρησις Φυσικοῦ Περιβάλλοντος	5
4.	Ἀναδασμὸς	15
5.	Κτηματολογικὸν καὶ Χωρομετρικὸν Τμῆμα (Διακατοχὴ γῆς καὶ χαρτογραφία. Μὲ τὴν προετοιμασίαν Ἐθνικοῦ Ἀτλαντος ὁ ἀριθμὸς πρέπει νὰ αὐξηθῇ).	5
6.	Τμῆμα Ἁλιείας	5
7.	Μετεωρολογικὸν Τμῆμα	5
8.	Τμῆμα Πολεοδομίας καὶ Οἰκήσεως	15
9.	Γραφεῖον Προγραμματισμοῦ	5
10.	Ὑπουργεῖον Ἐξωτερικῶν	5
11.	Ὑπουργεῖον Ἐμπορίου καὶ Βιομηχανίας	5
12.	Τμῆμα Γεωργίας (Χρῆσις γῆς, διάβρωσις, ἐδαφολογία, σχεδίασις)	5
13.	Τμῆμα Στατιστικῆς καὶ Ἐρευνῶν (δημογραφία κλπ.)	5
14.	Ἰδιωτικὸς τομεύς. (Ἐπιχειρήσεις καὶ Βιομηχανία)	25
15.	Διοίκησις	10
16.	Ἔρευναι (Ἰδιωτικὸς καὶ Δημόσιος Τομεὺς)	10
17.	Τμῆμα Ἀναπτύξεως Ὑδάτων (Ὑδρογραφία, σχεδιοποίησις κλπ.)	5
18.	Διάφορα (Τμῆμα Δασῶν, Ἰνστιτοῦτον Γεωργικῶν Ἐρευνῶν, Τμῆμα Συνεργατικῆς Ἀναπτύξεως, Τμῆμα Ἀρχαιοτήτων, Μεταλλεῖα, Ὑπουργεῖον Συγκοινωνιῶν καὶ Ἔργων, Ὑπουργεῖον Ἐργασίας)	15
	Ὁλικὸς Ἀριθμὸς	300

Λευκωσία, 18η Ἰανουαρίου, 1971.

ΔΙΑΓΩΝΙΣΜΟΙ

1. ΠΑΓΚΥΠΡΙΟΣ ΜΑΘΗΤΙΚΟΣ ΔΙΑΓΩΝΙΣΜΟΣ ΕΙΣ ΤΗΝ ΓΕΩΓΡΑΦΙΑΝ

Ὁ Γεωγραφικὸς Ὅμιλος Κύπρου, ἐν τῇ προσπαθείᾳ αὐτοῦ ὅπως προωθήσῃ τὴν γεωγραφικὴν γνῶσιν καὶ ἔρευναν ἐν Κύπρῳ, προεκήρυξε Παγκύπριον Μαθητικὸν Διαγωνισμόν, μὲ θέμα τὴν περιγραφὴν καὶ ἀνάλυσιν ἑνὸς οἱουδήποτε Κυπριακοῦ τοπίου ὡς λ.χ. ἡ Μεσαορία, ἡ Καρπασία, ἡ Πιτσιλιά, ἡ Πεδιὰς τῆς Πάφου, ὁ Πενταδάκτυλος κλπ. ἢ μέρος τῶν ἀνωτέρω, ἢ οἱασδήποτε ἄλλης γεωγραφικῆς περιφερείας τῆς Κύπρου.

ΟΡΟΙ: (α) Ἡ ἔκτασις τῆς μελέτης δέον νὰ μὴ ὑπερβαίνῃ τὰς 10 (δέκα) δακτυλογραφημένας σελίδας ἢ ἰσοδύναμον ἀριθμὸν μὴ δακτυλογραφημένων, δύναται δὲ νὰ συνοδεύεται μὲ χάρτας, σχεδιαγράμματα, σχέδια, φωτογραφίας κ.ο.κ.

(β) Εἰς τὸν διαγωνισμὸν δύνανται νὰ λάβουν μέρος μαθηταὶ σχολῶν Μέσης Ἐκπαιδεύσεως (Δημοσίων καὶ Ἰδιωτικῶν). Ἡ μελέτη δέον νὰ εἶναι καθαρογραμμένη καὶ εἰ δυνατὸν δακτυλογραφημένη.

(γ) Ὁ Ὅμιλος δύναται νὰ δημοσιεύσῃ τὰς βραβευθησομένας μελέτας εἰς τὸ δελτίον του.

(δ) Οἱ συμμετέχοντες τοῦ διαγωνισμοῦ δέον ὅπως δηλώσουν τὸ ὄνομά των, τὴν ἡλικίαν των, τὸ σχολεῖον εἰς τὸ ὁποῖον φοιτοῦν καὶ τὴν τάξιν των.

ΒΡΑΒΕΙΑ: Ὁ πρῶτος θὰ λάβῃ βραβεῖον ἐκ £10. Εἰς τὸν δεύτερον καὶ τρίτον θὰ δοθοῦν γεωγραφικὰ δῶρα. Τελευταία ἡμερομηνία ἀποστολῆς τῶν μελετῶν ἡ 15η Μαΐου, 1971.

Αἱ μελέται δέον ὅπως ἀποστέλλωνται πρὸς τὸν Γραμματέα τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου:

Κον Α. Σοφοκλέους,
Κωστάκη Παντελίδη 2,
Στρόβολος - Λευκωσία, Τ.Τ. 116.

ΣΗΜ.: Ὁ Παγκύπριος Μαθητικὸς Διαγωνισμὸς εἰς τὴν Γεωγραφίαν προκηρύσσεται τῇ ἐγκρίσει τοῦ Ὑπουργείου Παιδείας.

Τὰ ἀποτελέσματα τοῦ Διαγωνισμοῦ ἔχουν ὡς ἀκολούθως:

Εἰς τὸν ὑπὸ τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου προκηρυχθέντα Παγκύπριον μαθητικὸν διαγωνισμὸν εἰς Γεωγραφίαν ἐδήλωσαν συμμετοχὴν εἴκοσι δύο μαθηταὶ καὶ μαθήτριαι διαφόρων σχολῶν Μέσης Ἐκπαιδεύσεως.

Ἡ ἐξεταστικὴ Ἐπιτροπὴ ἀπαρτιζομένη ἐκ τῶν Γ. Καρούζη, Προέδρου Γ.Ο.Κ. καὶ τῶν Ὄθωνος Γιαγκουλλῆ, Γ. Φιλίππου καὶ Α. Χρίστου, καθηγητῶν Γεωγραφίας, ἀπεφάσισεν ὅπως μὴ ἀπονείμῃ πρῶτον βραβεῖον, λόγῳ τοῦ ὅτι οὐδεμία μελέτη ἱκανοποίησε πλήρως τοὺς ὅρους συμμετοχῆς. Ἀπεφάσισεν ὅμως ὅπως ἀπονείμῃ τὸ δεύτερον βραβεῖον (γεωγραφικὸν δῶρον ἀξίας £3.000 μίλς) εἰς τὴν μαθήτριαν τῆς Ε΄ τάξεως τοῦ Ἑλληνικοῦ Κολλεγίου Πάφου, Ἰσμήνην Ἀνδρέου, διὰ τὴν μελέτην της ἐπὶ τοῦ θέματος «Περιοχὴ Χλώρακας».

Εἰς τοὺς ἀκολούθους, ἂν καὶ ὑστέρησαν εἰς τὴν ἀνάπτυξιν τοῦ θέματος, ἀπενεμήθη ἔπαινος καὶ ἐδωρήθη τὸ τελευταῖον τεῦχος τοῦ δελτίου τοῦ Γ.Ο.Κ.

1. Χρυσάνθη Χρ. Σταυρινοῦ, τάξις Γ΄, Γυμνάσιον Πολεμίου. Θέμα: «Μελέτη τῆς πεδιάδος Πάφου».

2. Χριστάκης Χριστοφίδης, τάξις Στ΄, Terra Santa College, Λευκωσία. Θέμα: «Μεσαορία».

3. Δ. Μιχαηλίδου, τάξις Στ΄, Γυμνάσιον Θηλέων Λεμεσοῦ. Θέμα: «Γνωριμία μὲ τὴν οἰκογένειαν τοῦ Στ. Παντελῆ».

4. Θ. Κλ. Θεοδώρου, τάξις Α΄, St. Mary's School, Λεμεσός. Θέμα: «Ἐπαρχία Λεμεσοῦ».

5. Μαρία Θρασυβουλίδου, τάξις Γ΄, Παγκύπριον Ἐμπορικὸν Λύκειον Λάρνακος. Θέμα: «Ἡ περιοχὴ Ἁλυκῆς—Κιτίου».

6. Κ. Ἰακωβίδης, τάξις Δ΄, Παγκύπριον Γυμνάσιον Κύκκου Ἀρρένων, Λευκωσία. Θέμα: «Ἡ φύσις λέγει τὰ μυστικά της εἰς τὴν περιοχὴν Κερύνειας».

7. Καρεκλᾶ 'Αλκιβιάδης τάξις Ε΄, Τεχνικὴ Σχολὴ Λευκωσίας. Θέμα: «Σαλαμίς».

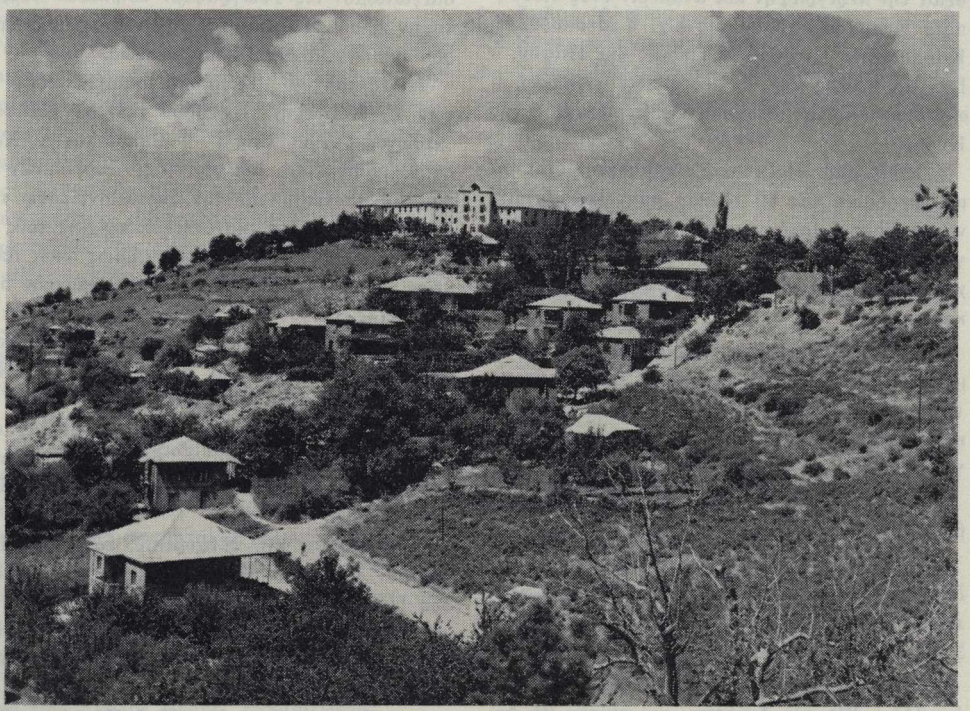
8. Ν. Ζαχαριάδου, τάξις Γ΄, St. Mary's School, Λεμεσός. Θέμα: «Μελέτη διὰ τὴν 'Επαρχίαν 'Αμμοχώστου».

'Η ἐξεταστικὴ 'Επιτροπὴ ἀπεφάσισεν ἐπίσης ὅπως ἐγγράψῃ ὅλους τοὺς συμμετασχόντας ὡς ἔκτακτα μέλη τοῦ Γ.Ο.Κ. δι' ἓν ἔτος, ἵνα δοθῇ εἰς αὐτοὺς ἡ εὐκαιρία νὰ γνωρίσουν περισσότερον τὸ ὑψηλὸν μάθημα τῆς Γεωγραφίας.

2. ΔΙΑΓΩΝΙΣΜΟΣ ΚΑΛΗΣ ΧΡΗΣΕΩΣ ΤΟΠΙΚΟΥ ΠΕΤΡΩΜΑΤΟΣ

'Ο Γεωγραφικὸς "Ομιλος Κύπρου προεκήρυξε Παγκύπριον Διαγωνισμὸν μεταξὺ τῶν χωρίων τῆς Κύπρου, διὰ τὴν βράβευσιν τῆς κοινότητος, εἰς τὴν ὁποίαν γίνεται ἡ καλυτέρα χρῆσις τοπικοῦ πετρώματος διὰ τὴν ἀνέγερσιν οἰκοδομῶν, ἐγκαταστάσεων, κ.ο.κ.

'Η εἰς τὰς διαφόρους γεωγραφικὰς περιφερείας τῆς Κύπρου ὕπαρξις διαφόρων πετρωμάτων ὡς γάβρων, ἀσβεστολίθων κλπ. παρέχει λίαν ἐξαίρετον ὑλικὸν διὰ τὴν οἰκοδομικὴν βιο-



"Αποψις τοῦ βραβευθέντος διὰ πρώτου βραβείου Προδρόμου εἰς τὸν Διαγωνισμὸν χρήσεως τοπικοῦ πετρώματος.

μηχανίαν μιᾶς κοινότητος. 'Ο τρόπος ἐξορύξεως καὶ χρησιμοποιήσεως τῶν πετρωμάτων αὐτῶν ἐντάσσεται εἰς τὰ εὐρύτερα πλαίσια τῆς διατηρήσεως καὶ ἐξωραϊσμοῦ τοῦ τοπίου.

Οἱονδήποτε χωρίον τῆς Κύπρου ἠδύνατο νὰ συμμετάσχῃ εἰς τὸν διαγωνισμόν, ἡ δὲ αἴτησις συμμετοχῆς ἠδύνατο νὰ ὑποβληθῇ ὑπὸ οἱουδήποτε παράγοντος τοῦ χωρίου ὡς κοινοτάρχου, διδασκάλου, ἱερέως, γραμματέως Συνεργατικῆς, μέλους χωριτικῆς ἀρχῆς κ.ο.κ.

Τὸ δικαίωμα συμμετοχῆς, ὡρίσθη εἰς £1, διὰ τὴν κάλυψιν τῶν ἐξόδων τῆς 'Επιτροπῆς, ἥτις θὰ ἐπεσκέπτετο ἅπαντα τὰ χωρία ἅτινα θὰ συμμετεῖχον, πρὸς ἐξέτασιν τοῦ βαθμοῦ καὶ τοῦ τρόπου χρησιμοποιήσεως τοῦ τοπικοῦ πετρώματος. Τὸν διαγωνισμὸν εὐγενῶς ἐπεχορήγησε ὁ Κυπριακὸς 'Οργανισμὸς Τουρισμοῦ.

Θὰ ἀπενέμοντο δύο βραβεῖα, τὸ πρῶτον ἐκ

£50 καὶ τὸ δεύτερον ἐξ £25.

Αἱ δηλώσεις συμμετοχῆς θὰ ἔπρεπε νὰ ὑποβληθοῦν πρὸς τὸν Γραμματέα τοῦ Γ.Ο.Κ., Ὁδὸς Κωστάκη Παντελίδη 2, Στρόβολος-Λευκωσία, Τ.Τ. 116, οὐχὶ ἀργότερον τῆς 15ης Αὐγούστου, 1971.

ΑΠΟΤΕΛΕΣΜΑΤΑ

Κατὰ τὸν προκηρυχθέντα ἐν συνεργασίᾳ μετὰ τοῦ Κ.Ο.Τ. διαγωνισμὸν πρὸς βράβευσιν τοῦ χωρίου εἰς τὸ ὁποῖον γίνεται καλυτέρα χρῆσις τοπικοῦ δομικοῦ ὑλικοῦ, τὰ βραβεῖα ἀνερχόμενα εἰς χρηματικὸν ποσὸν £75, εὐγενῶς προσφερθέντα ὑπὸ τοῦ Κυπριακοῦ Ὀργανισμοῦ Τουρισμοῦ, ἀπενεμήθησαν ἀπὸ κοινοῦ εἰς τὰ χωρία Πρόδρομος καὶ Ἄνω Ἀρόδες.

Εἰς ταῦτα παρετηρήθη λίαν ἐκτεταμένη χρῆσις τοπικῶν πετρωμάτων, συνισταμένων ἐκ γάββρων εἰς Πρόδρομον καὶ ἀσβεστολίθων εἰς Ἄνω Ἀρόδες διὰ τὴν ἀνέγερσιν οἰκιῶν, ἐγκαταστάσεων, κατασκευὴν ἀναβαθμίδων κ.ο.κ. Ἡ ἐξόρυξις τοῦ πτρώματος ἐγένετο κατὰ τρόπον μὴ καταστρέφοντα τὸ τοπίον ἡ δὲ χρῆσις αὐτοῦ ἐγένετο κατὰ τρόπον ἐναρμονιζόμενον μὲ τὸ φυσικὸν περιβάλλον.

Ἡ κριτικὴ ἐπιτροπὴ ἀπηρτίζετο ἐκ τῶν κ.κ. Ἄθ. Γιαγκουλῆ, Γεωλόγου, Γ. Καρούζη, Γεωγράφου καὶ Ν. Γεωργιάδη, Φυσιογνώστου.

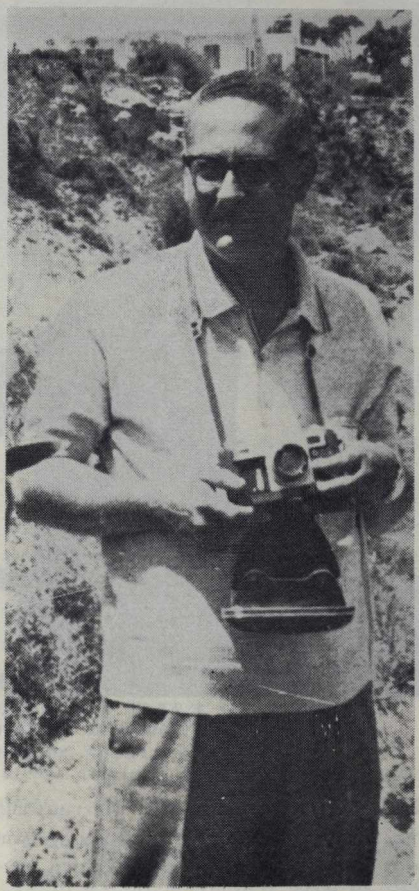
ΔΙΑΣΗΜΟΙ ΞΕΝΟΙ ΓΕΩΓΡΑΦΟΙ ΕΙΣ ΚΥΠΡΟΝ

Συνεχίζων τὰς προσπαθείας του διὰ κάθοδον εἰς Κύπρον διασήμων ξένων γεωγράφων, ὁ Γ.Ο.Κ. προσεκάλεσε κατὰ τὸ α΄ ἑξάμηνον τοῦ 1971 δύο διασήμους καθηγητὰς γεωγραφίας ἐκ γειτονικῶν χωρῶν, οἱ ὁποῖοι παρέμειναν εἰς Κύπρον ὡς φιλοξενούμενοί του διὰ μίαν ἑβδομάδα ἕκαστος. Κατὰ τὴν διάρκειαν τῆς ἐνταῦθα παραμονῆς των οὗτοι ἐξεναγήθησαν ὑπὸ μελῶν τοῦ Διοικητικοῦ Συμβουλίου τοῦ Γ.Ο.Κ. εἰς διάφορα μέρη τῆς Νήσου, ἔδωσαν διαλέξεις ἐπὶ γεωγραφικῶν θεμάτων, ἐπεσκέφθησαν ἁρμοδίους κυβερνητικοὺς λειτουργοὺς μετὰ τῶν ὁποίων συνεζήτησαν θέματα τῆς εἰδικότητός των καὶ ἀντήλλαξαν ἀπόψεις μετὰ τοῦ Γ.Ο.Κ., ὅσον ἀφορᾷ τρόπους στενωτέρας συνεργασίας καὶ ἀνταλλαγῶν μεταξὺ τῶν γεωγράφων τῆς Κύπρου καὶ τῶν χωρῶν των.

Οἱ διάσημοι αὐτοὶ γεωγράφοι εἶναι:

1. Δρ. Σαπχῆ Ἀβδὲλ Χακκίμ, Διευθυντὴς Τμήματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Καΐρου. Ἀφίχθη εἰς Κύπρον τὴν 3ην Μαΐου καὶ παρέμεινε μέχρι τῆς 10ης τοῦ ἰδίου μηνός.

2. Καθηγητὴς Ἐμμανουὴλ Γιαλάν, Διευθυντὴς τοῦ Ἰνστιτούτου Ἐρεύνης Ἀγροτικῶν Οἰκισμῶν τῆς Χάϊφα καὶ Καθηγητὴς τοῦ Τμήματος Γεωργικῆς Μηχανικῆς τοῦ Ἰνστιτούτου Τεχνολογίας τοῦ Ἰσραήλ. Ἐφιλοξενήθη εἰς Κύπρον ἀπὸ τῆς 1ης μέχρι 8ης Ἰουνίου.



Ὁ Διευθυντὴς τοῦ Τμήματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Καΐρου Δρ. Σ. Α. Χακκίμ.

ΣΥΝΕΣΤΙΑΣΕΙΣ

1. Συνεστίασις τῶν μελῶν τοῦ Γ.Ο.Κ. εἰς τὸ ξενοδοχεῖον «Χίλτον» πρὸς τιμὴν τοῦ Διευθυντοῦ τοῦ Τμήματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Καΐρου Δρος Σ. Α. Χακκίμ.

2. Συνεστίασις μετὰ διαλέξεως εἰς τὸ ξενοδοχεῖον «Χίλτον» τὴν 5ην Ἰουνίου, 1971. Ὁμιλητὴς ὁ Διευθυντὴς τοῦ Ἰνστιτούτου Ἐρεύνης ἐπὶ ἀγροτικῶν οἰκισμῶν τῆς Χάϊφα κ. Ἐ. Γιαλὰν μὲ θέμα: «Ἡ ἀνατομία τοῦ ἀγροτικοῦ χώρου».

ΔΙΑΛΕΞΕΙΣ

1. **19.2.1971:** Αἴθουσα τελετῶν Πνευματικῆς Στέγης. Διάλεξις ὑπὸ τοῦ ἐν Κύπρῳ Εἰδικοῦ Ἀντιπροσώπου τοῦ Γενικοῦ Γραμματέως τῶν Ἡνωμένων Ἐθνῶν Δρος Ὀζόριο Ταφὰλ μὲ θέμα: «Ἐπίδρασις τῶν γεωμορφολογικῶν σχηματισμῶν ἐπὶ τοῦ Κυπριακοῦ τοπίου».

3. **5.5.1971:** Αἴθουσα Κυπροαραβικοῦ Συνδέσμου. Διάλεξις μὲ ὁμιλητὴν τὸν Διευθυντὴν τοῦ Τμήματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Καΐρου Δρα Σ. Α. Χακκὶμ μὲ θέμα: «Δημογραφικαὶ ροπαὶ εἰς Αἴγυπτον».

Ὁ ἐν Κύπρῳ Ἀντιπρόσωπος τοῦ Γενικοῦ Γραμματέως τῶν Ἡνωμένων Ἐθνῶν Δρ. Ὀζόριο Ταφάλ, κατὰ τὴν διάρκειαν τῆς διαλέξεώς του.

2. **26.3.1971:** Αἴθουσα τελετῶν Πνευματικῆς Στέγης. Διάλεξις ὑπὸ τοῦ Καναδοῦ Γεωγράφου Ρίτσιαρτ Πάτρικ μὲ θέμα: «Αἱ πολιτικαὶ συγκρούσεις εἰς Κύπρον ἀπὸ γεωγραφικῆς ἀπόψεως». Μετὰ τὸ πέρας τῆς διαλέξεως ἐπηκολούθησε διεξοδικὴ συζήτησις.

4. **7.5.1971:** Αἴθουσα Πνευματικῆς Στέγης. Διάλεξις τοῦ Δρος Σ. Α. Χακκὶμ μὲ θέμα: «Ὁ ρόλος τῶν Ἀράβων εἰς τὴν Γεωγραφίαν τῶν Κλασσικῶν Χρόνων».

5. **3.6.1971:** Αἴθουσα Κυπρο-Ἰσραηλιτικοῦ Συνδέσμου. Διάλεξις ὑπὸ τοῦ Διευθυντοῦ τοῦ

'Ινστιτούτου 'Ερεύνης ἐπὶ ἀγροτικῶν οἰκισμῶν τῆς Χάϊφα, 'Ισραήλ, Καθηγητοῦ 'Ε. Γιαλὰν μὲ θέμα: «Τὸ μέλλον τῆς δευτέρας γενεᾶς εἰς τὰς ἀγροτικὰς κοινότητας».

ΥΠΑΙΘΡΙΟΙ ΜΕΛΕΤΑΙ

1. **24.1.1971:** Ὑπαίθριος γεωγραφικὴ μελέτη τοῦ ὀροπεδίου Σκυλλούρας. 'Οδηγός: Γ. Καρούζης.

3. **9.5.1971:** Ὑπαίθριος Γεωλογικὴ μελέτη τῆς παρακτίου περιοχῆς Κυρηνείας ἀνατολικῶς τοῦ Φρουρίου. 'Οδηγὸς ὁ τέως καθηγητὴς Γεω-

'Ο τέως καθηγητὴς τῆς Γεωλογίας εἰς τὸ Πανεπιστήμιον τοῦ Μπρίστολ κ. W. Dreghorn ἐπὶ κεφαλῆς ὑπαιθρίου μελέτης τῶν μελῶν τοῦ 'Ομίλου.

2. **7.3.1971:** Ὑπαίθριος γεωγραφικὴ μελέτη τῆς περιοχῆς Λευκάρων, μὲ ἔμφασιν εἰς τὴν κοιλάδα τοῦ ποταμοῦ Πεντάσχοινου. 'Οδηγός: Ν. Γεωργιάδης.

λογίας τοῦ Πανεπιστημίου Μπρίστολ 'Αγγλίας κ. Γουΐλλιαμ Ντρέκχορν. Εἰς τὴν μελέτην αὐτὴν συμμετέσχε καὶ ὁ Διευθυντὴς τοῦ Τμήματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Καΐρου Δρ. Σ. Α. Χακίμ.

ΚΙΝΗΜΑΤΟΓΡΑΦΙΚΑΙ ΒΡΑΔΥΑΙ

1. **14.1.1971:** Κινηματογραφικὴ βραδυὰ ἀφιερωμένη εἰς τὴν Αἴγυπτον. Προεβλήθησαν αἱ ταινίαι: «Τὸ Λοῦξορ καὶ τὰ μνημεῖα του», «'Η πράσινη ἄμμος — Φράγμα τοῦ 'Ασσουάν», «Παρελθὸν καὶ παρόν» καὶ «'Αλεξάνδρεια».

2. **12.2.1971:** Κινηματογραφικὴ βραδυὰ ἀφιερωμένη εἰς τὴν Γαλλίαν. Προεβλήθησαν πέντε ταινίαι τουριστικοῦ καὶ γεωγραφικοῦ περιεχομένου.

3. **12.3.1971:** Κινηματογραφικὴ βραδυὰ ἀφιερωμένη εἰς τὴν Σοβιετικὴν Ἕνωσιν. Προεβλήθησαν αἱ ταινίαι: «Κυλάει ὁ Βόλγας» καὶ «Σιβηρία».

ΕΚΔΟΣΕΙΣ Γ.Ο.Κ.

1. «Γεωγραφικὰ Χρονικὰ» Ἔτος Α΄, Ἀρ. 2, Ἰούλιος 1971. Δελτίον τοῦ Γεωγραφικοῦ Ὁμίλου Κύπρου.

2. "Geomorphology of the coastine east of Kyrenia Castle", by N. Dreghorn, Late Senior Geology Lecturer, Institute of Education, University of Bristol, May, 1971.

ΜΑΘΗΜΑΤΑ ΓΕΩΓΡΑΦΙΑΣ

Κατὰ τὴν διαρρεύσασαν περίοδον ἐσυνεχίσθησαν ὁμαλῶς αἱ παραδόσεις τῶν ὑπὸ τοῦ Γ.Ο.Κ. ὀργανουμένων μαθημάτων γεωγραφίας, πρὸς ἀπόκτησιν τοῦ Διπλώματος Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Λονδίνου. Τὰ μαθήματα παρηκολούθουν 14 ἐκπαιδευτικοί, ἐδίδαξαν δὲ οἱ καθηγηταὶ Γεωγραφίας E. Kanne B.A., M.A. καὶ Ὄθων Γιαγκουλλῆς B.A. M.Sc.

Α. Κ. Σ.

Φοιτηταὶ διὰ τὸ Δίπλωμα Γεωγραφίας τοῦ Πανεπιστημίου τοῦ Λονδίνου κατὰ τὴν διάρκειαν ἐξορμήσεώς των δι' ἐπιτόπιον μελέτην.

ΠΑΓΚΟΣΜΙΑ ΓΕΩΓΡΑΦΙΚΑ ΝΕΑ

ΔΙΕΘΝΗ ΣΥΝΕΔΡΙΑ

1. Πανευρωπαϊκὸν Γεωγραφικὸν Συνέδριον

Ἡ Διεθνὴς Γεωγραφικὴ Ἕνωσις διωργάνωσεν εἰς Βουδαπέστην, μεταξὺ 9—20 Αὐγούστου, Πανευρωπαϊκὸν Γεωγραφικὸν Συνέδριον, τὸ ὁποῖον ἠσχολήθη μὲ θέματα περιφερειακοῦ προγραμματισμοῦ, οἰκονομικῆς συνεργασίας, ἐξαστισμοῦ, γεωργικῆς γεωγραφίας, χαρτογραφίας καὶ ἐκπαιδευτικῆς γεωγραφίας.

Ὁ Γ.Ο.Κ., ὅστις τυγχάνει μέλος τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως, προσεκλήθη ὅπως παραστῇ ὡς ἐκπρόσωπος τῆς Κυπριακῆς Δημοκρατίας. Δυστυχῶς τοῦτο δὲν κατέστη δυνατόν, λόγῳ οἰκονομικῶν δυσχερειῶν.

2. Τὸ 22ον Συνέδριον τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως (I.G.U.)

Τὸ 22ον Συνέδριον τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως θὰ συνέλθῃ εἰς Μοντρεὰλ τοῦ Καναδᾶ, μεταξὺ τῆς 10ης καὶ 17ης Αὐγούστου 1972. Τὴν ὀργάνωσιν τοῦ Συνεδρίου, καθὼς καὶ τὴν ξενάγησιν καὶ φιλοξενίαν τῶν διασήμων συνέδρων ἀπὸ κάθε γωνίαν τῆς ὑφηλίου, ἀνέλαβεν ἐκ μέρους τῶν Γεωγράφων τοῦ Καναδᾶ Εἰδικὴ Ἐθνικὴ Ἐπιτροπή. Ἡ Ἐπιτροπὴ αὐτὴ ἐπιχορηγεῖται πρὸς τὸν σκοπὸν τοῦτον ὑπὸ τῆς Κυβερνήσεως τοῦ Καναδᾶ, τῆς Ἑνώσεως Καναδῶν Γεωγράφων καὶ τῆς Βασιλικῆς Γεωγραφικῆς Ἑταιρείας τοῦ Καναδᾶ.

Τὸ 22ον Διεθνὲς Γεωγραφικὸν Συνέδριον ἔχει ἰδιαιτέραν σημασίαν, καθ' ὅτι ἐφέτος συμπληροῦνται 100 ἔτη ἀπὸ τῆς συγκλήσεως τοῦ Πρώτου Διεθνοῦς Γεωγραφικοῦ Συνεδρίου τὸ 1871 εἰς Ἀμβέρσαν καὶ διότι ἐφέτος συμπληροῦται 50ετία ἀπὸ τῆς ἱδρύσεως τῆς Διεθνοῦς Γεωγραφικῆς Ἑνώσεως. Τὰ δύο αὐτὰ σημαντικὰ γεγονότα θὰ ἑορτασθοῦν λαμπρῶς εἰς εἰδικὴν συνεδρίαν.

Διὰ περισσοτέρας πληροφορίας καθὼς καὶ διὰ αἰτήσεις συμμετοχῆς εἰς τὸ Συνέδριον, οἱ ἐνδιαφερόμενοι δέον ὅπως ἀπευθύνωνται εἰς τὸν Πρόεδρον ἢ Γενικὸν Γραμματέα τοῦ Γ.Ο.Κ.

3. Ἡ 6η Διεθνὴς Διάσκεψις τῆς Διεθνοῦς Χαρτογραφικῆς Ἑνώσεως

Ἡ Τετάρτη Γενικὴ Συνέλευσις καὶ ἡ Ἕκτη Διεθνὴς Διάσκεψις τῆς Διεθνοῦς Χαρτογραφικῆς Ἑνώσεως θὰ συνέλθῃ εἰς Καναδᾶν μεταξὺ τῆς 16ης καὶ 25ης Αὐγούστου 1972, ὑπὸ τὴν αἰγίδα τοῦ Ἰνστιτούτου Χωρομετρήσεων τοῦ Καναδᾶ.

Ἡ ἐπίσημος ἔναρξις, αἱ πρῶται συνεδρίαι καὶ μία κοινὴ συνεδρία μετὰ τῶν γεωγράφων, οἱ ὁποῖοι θὰ παρακάθηνται εἰς τὸ 22ον Διεθνὲς Γεωγραφικὸν Συνέδριον, θὰ πραγματοποιηθοῦν εἰς Μοντρεὰλ μεταξὺ τῆς 16ης—18ης Αὐγούστου. Τὸ ὑπόλοιπον μέρος τῆς Διασκέψεως θὰ πραγματοποιηθῇ εἰς Ὀττάβαν μεταξὺ τῆς 21ης καὶ 25ης τοῦ ἰδίου μηνός.

Διὰ τὸ Πρόγραμμα καὶ δι' ἄλλας λεπτομερείας τῆς Διασκέψεως οἱ ἐνδιαφερόμενοι δέον ὅπως ἀπευθύνωνται εἰς τὴν Διεύθυνσιν τοῦ Γ.Ο.Κ.

4. Τὸ 24ον Διεθνὲς Γεωλογικὸν Συνέδριον

Τὸ 24ον Διεθνὲς Γεωλογικὸν Συνέδριον θὰ συνέλθῃ εἰς Μοντρεὰλ τοῦ Καναδᾶ, μεταξὺ τῆς 21ης καὶ τῆς 30ῆς Αὐγούστου, 1972. Διὰ περισσοτέρας πληροφορίας οἱ ἐνδιαφερόμενοι δύνανται νὰ ἀπευθύνωνται εἰς: Secretary-General, 24th International Geological Congress, 601 Booth Street, Ottawa 4, Ontario, Canada.

5. Διεθνὲς Συμπόσιον Σπηλαιολογίας

Τὴν 18ην παρελθόντος Σεπτεμβρίου ἔληξε τὸ συνελθὸν εἰς Ἀθήνας Διεθνὲς Συμπόσιον Σπηλαιολογίας, εἰς τὸ ὁποῖον συμμετέσχον 16 χῶραι. Τὴν ὅλην ὀργάνωσιν τοῦ Συμποσίου ἀνέλαβεν ἡ Ἑλληνικὴ Σπηλαιολογικὴ Ἑταιρεία. Μετὰ τὴν πανηγυρικὴν ἔναρξιν τοῦ Συμποσίου εἰς τὴν Ἀρχαιολογικὴν Ἑταιρείαν, αἱ κυρίως ἐργασίαι συνεχίσθησαν εἰς τὴν αἴθου-

σαν συνεδρίων τῆς Παντείου Σχολῆς, κατὰ τὴν διήμερον δὲ διάρκειαν τούτου ἔγιναν 23 ἐπιστημονικαὶ ἀνακοινώσεις ἰδιαιτέρου ἐνδαφέροντος διὰ τὴν Ἑλλάδα, ἰδίᾳ εἰς τὸ πλαίσιον τῶν ὑποθαλασσίων Καρστικῶν πηγῶν — «ἀνάβολοι». Ἀνακοινώσεις ἐγένοντο ἐπίσης ἐπὶ θεμάτων προϊστορίας καὶ παλαιοντολογίας, προεβλήθησαν δὲ ταινίαι μεγάλου μήκους ἐπὶ ὑποβρυχίων ἐρευνῶν, μετρήσεων καὶ μεθόδων καθόδου εἰς βάραθρα ὑπὸ Ἀμερικανῶν Σπηλαιολόγων.

Μετὰ τὸ πέρας τοῦ Συμποσίου, οἱ ξένοι σπηλαιολόγοι ἐπεσκέφθησαν σπήλαια εἰς διάφορα μέρη τῆς Ἑλλάδος.

Α. Κ. Σ.

ΔΙΑΒΑΣΑΜΕ ΓΙΑ ΣΑΣ

ΠΕΤΡΩΜΑΤΑ ΑΠΟ ΤΗ ΓΗ ΣΤΗ ΣΕΛΗΝΗ

Προτάσεις ἐρευνητῶν τοῦ Κολοράντο

Ἐκεῖνο ποὺ ἀποτελεῖ ἕνα ἀπὸ τὰ βασικώτερα χαρακτηριστικὰ γνωρίσματα τῶν πετρωμάτων τῆς Σελήνης, ὡς ἀποδεικνύεται ἐκ τῶν δειγμάτων ποὺ μετεφέρθησαν ἕως τώρα στὴν Γῆ, εἶναι ἡ παντελὴς ἀνυπαρξία μορίων ὕδατος ἢ ἄλλων ἐκ τῶν ἐξατμιζομένων ὑλῶν ποὺ εὑρίσκονται στὰ γήϊνα πυριγενῆ πετρώματα. Οἱ κατὰ τὴν ροὴν τοῦ χρόνου φθορὲς καὶ διαβρώσεις, ποὺ ἔχουν ὑποστῆ τὰ μελετηθέντα μέχρι σήμερα δείγματα τοῦ σεληνιακοῦ ἐδάφους, ἐμφανίζουν μίαν ἐντελῶς διαφορετικὴν εἰκόνα ἐκείνων τῆς Γῆς καὶ τοῦτο λόγῳ τῶν διαφορετικῶν δυνάμεων καὶ συνθηκῶν ποὺ τὶς ἐπροκάλεσαν, ὡς εἶναι, λόγου χάριν, ὁ συνεχὴς «βομβαρδισμὸς» ἀπὸ τοὺς ἡλιακοὺς «ἀνέμους».

Οἱ ἐπιστήμονες, ὡς ἐκ τούτου, δὲν γνωρίζουν μετὰ θετικότητος πόσο γρήγορα διαλύθηκαν καὶ χάθηκαν ἀπὸ τὴν Σελήνη τὰ μόρια τῶν ἐξατμιζομένων στοιχείων ἢ ἂν ὑπῆρξαν ποτὲ ἴχνη ὕδατος ἐπάνω στὸν φυσικὸ δορυφόρο μας.

Χρειάζονται βασικὲς κατευθυντήριες γραμμὲς ἐρεύνης γιὰ νὰ μπορέσουν οἱ μελετηταὶ νὰ καθορίσουν τὰ εἴδη καὶ τὶς χρονικὲς περιόδους κατὰ τὶς ὁποῖες συνετελέσθησαν ἐπάνω στὴν Σελήνη οἱ διαβρωτικὲς ἐδαφικὲς ἐξεργασίες, ποὺ τῆς δίνουν τὴν σημερινὴ μορφολογία της.

Ἕνα μοναδικὸ πείραμα, τὸ ὁποῖο θὰ μποροῦσε νὰ βοηθήσῃ στὴν ἑρμηνεία τῶν ἀγνώστων ἕως τώρα σ' ἐμᾶς σεληνιακῶν χαρακτηριστικῶν ἐπροτάθη στὴν Διοίκησι Ἀεροναυτικῆς καὶ Διαστήματος τῶν Ἡνωμένων Πολιτειῶν (ΝΑΣΑ) ἀπὸ μίαν ὁμάδα ἐπιστημόνων τῆς Σχολῆς Ὀρυκτολογίας τοῦ Κολοράντο.

Οἱ ἐρευνηταὶ αὐτοὶ προτείνουν ὅπως ἀποσταλοῦν μὲ ἕνα τῶν διαστημοπλοίων «Ἀπόλλων» στὴν Σελήνη δείγματα κοινῶν γηΐνων πετρωμάτων, συμπεριλαμβανομένων θειϊκῶν, θειούχων, ἀργιλούχων ὡς καὶ ὑλικὸ ποὺ ἔχει πέσει στὴν Γῆ ἀπὸ μετεωρίτες.

Κατὰ τὸ προτεινόμενο σχέδιο, τὸ ὁποῖο ἀπεκλήθη «Σχέδιον Σουΐτσυ», μερικὰ ἐκ τῶν πετρωμάτων αὐτῶν θὰ ἐκτεθοῦν ἐπὶ τῆς ἐπιφανείας τῆς Σελήνης γιὰ νὰ βρεθοῦν ὑπὸ τὴν ἐπίδρασιν τῶν ἐκεῖ συνθηκῶν περιβάλλοντος μέχρι τῆς εἰς τὴν Γῆν ἐπιστροφῆς τοῦ διαστημοπλοίου «Ἀπόλλων».

Τὰ δείγματα μιᾶς ἄλλης, ἀντιστοίχου σειρᾶς γηΐνων ὑλικῶν, θὰ παραμείνουν μονίμως ἐπάνω στὴν Σελήνη καὶ θὰ μεταφερθοῦν στὴν Γῆ μετὰ ἀπὸ ἀρκετὰ ἔτη.

Ἔτσι οἱ ἐρευνηταὶ τοῦ Κολοράντο θὰ εἶναι σὲ θέσι νὰ ἐξακριβώσουν πῶς συντελεῖται ἡ ἀλλοίωσις ὡρισμένων μετάλλων ἐπὶ τῆς ἐπιφανείας τῆς Σελήνης, ποιὸς εἶναι ὁ βαθμὸς διαβρώσεως ποὺ πραγματοποιεῖται σὲ ὡρισμένο χρονικὸ διάστημα καὶ ἂν τὰ ἐξατμιζόμενα στοιχεῖα τῶν γηΐνων πετρωμάτων χάνωνται.

«Ἡ ἐπιφάνεια τῆς Σελήνης θὰ χρησιμοποιηθῇ ὡς ἐργαστήριο», λέγει ὁ ἐμπνευστὴς τῆς ἰδέας δρ Ρέημον Μπίσκ. «Ὑπάρχει κοινὴ ἀντίληψις», συνεχίζει ὁ Ἀμερικανὸς ἐπιστήμων, «ὅτι ἡ ταυτόχρονος ἐπάνω στὴν Γῆ ἀπομίμησις ὅλων τῶν συνθηκῶν καὶ ὅρων ποὺ συμβάλλουν στὸ νὰ καθίσταται μοναδικὸν εἰς τὸν Κόσμον τὸ περιβάλλον τῆς σεληνιακῆς ἐπιφανείας, δὲν εἶναι πρακτικῶς ἐφικτή, ἂν μὴ ἀδύνατος».

Πάντως οἱ γνώσεις ποὺ θ' ἀποκτηθοῦν ἀπὸ τὴν διεξαγωγὴν τῆς ὅλης αὐτῆς ἐρευνητικῆς ἐργασίας, ὡς τὴν ἐσχεδίασαν ὁ δρ Μπίσκ καὶ οἱ συνεργάτες του, θὰ εἶναι, πιθανώτατα οἱ κυριώτερες ὅλων, ἂν ὄχι οἱ μοναδικές, ποὺ θὰ

βοηθήσουν στὸν ἀκριβῆ καθορισμὸν τῆς ἡλικίας τῆς Σελήνης ὡς καὶ τῆς χρονικῆς σχέσεως ποὺ τὴν συνδέει μὲ τὴν ἡλικίαν τῆς Γῆς.

Εἶναι αὐτονόητον ὅτι θὰ βοηθήσουν ἐπίσης στὴν ἐπίλυσιν πλείστων ὅσων ἀποριῶν, ἀκόμη καὶ προβλημάτων, ποὺ συνδέονται μὲ τὴν δημιουργίαν ὄχι ἁπλῶς τοῦ στενοῦ κύκλου τῆς Γῆς καὶ τοῦ δορυφόρου της, ἀλλὰ ὁλοκλήρου τοῦ πλανητικοῦ μας συστήματος.

Δὲν ἀποκλείεται, τέλος, νὰ ὁδηγήσουν στὴν πραγμάτωσι μελετῶν, ποὺ θ' ἀποκαλύψουν ἄγνωστα σημεῖα καὶ ἰδιότητες ἀκόμη καὶ τοῦ ὅλου συγκροτήματος τῶν πλανητῶν καὶ δορυφόρων τοῦ γαλαξία μας ἢ καὶ τῶν ἄλλων μακρινῶν ἀστρικῶν συγκροτημάτων τοῦ ἀπείρου σύμπαντος.

Σ.

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ΚΡΙΤΙΚΗ ΒΙΒΛΙΟΥ

"ROCKS AND SCENERY IN THE KYRENIA REGION"

Ὑπὸ William Dreghorn

Ἔκδοσις Γραφείου Δημοσίων Πληροφοριῶν διὰ τὸ Συμβούλιον Διατηρήσεως Φυσικοῦ Περιβάλλοντος.

Τὸ σύγγραμμα "Rocks and Scenery in the Kyrenia Region", ὑπὸ τοῦ κ. William Dreghorn, τέως λέκτορος τῆς Γεωλογίας εἰς τὸ Πανεπιστήμιον τοῦ Μπρίστολ, ἀποτελεῖ ἀξιόλογον ἔργον εἰς τὸν τομέα τῆς γεωμορφολογίας τοῦ τόπου μας.

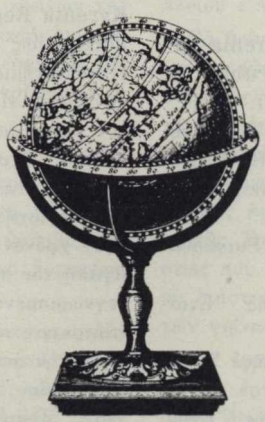
Ὁ κ. Dreghorn εἶναι θαυμαστὴς τῶν φυσικῶν καλλονῶν τῆς νήσου μας καὶ ἰδιαιτέρως τῆς περιοχῆς Κυρηνείας, ὅπου ἀφιέρωσε μακρὸν χρόνον πρὸς ἐπιτόπιον μελέτην. Αὐτὴ ἡ ἀγάπη του πρὸς τὸ Κυπριακὸν τοπίον καὶ ἡ ἀνεγνωρισμένη ἐπιστημονική του κατάρτισις τοῦ ἐπέτρεψαν νὰ περιγράψῃ μὲ ἀρκετὴν γλαφυρότητα τὴν ἀνέλιξιν καὶ ἐξέλιξιν τοῦ ποικιλομόρφου τοπίου τῆς μαγευτικῆς περιοχῆς Κυρηνείας. Ἰδιαιτέρα ἔμφασις δίδεται εἰς τὰ αἴτια τὰ ὁποῖα συνετέλεσαν εἰς τὴν διαμόρφωσιν τῆς ἀκτῆς, εἰς τὰ ἀποτελέσματα τὰ ὁποῖα εἶχεν ἡ ἀνύψωσις τῆς ἀκτῆς ἐπὶ τοῦ τοπίου, εἰς τοὺς παράγοντας οἱ ὁποῖοι συνετέλεσαν εἰς τὸν σχηματισμὸν τῶν διαφόρων φυσικῶν ἀναβαθμίδων τῆς περιοχῆς καὶ εἰς τὴν ἐξέτασιν τῶν καρστικῶν καὶ ἄλλων φαινομένων τὰ ὁποῖα παρουσιάζει ἡ ὀροσειρὰ Πενταδακτύλου. Εἰδικῶς διὰ τὴν φάραγγα τοῦ ποταμοῦ Παλαιομύλου παρὰ τὰ Πάναγρα, εἰς τὴν ὁποίαν ὀφείλεται καὶ ἡ γνωστὴ διάβασις τῶν Πανάγρων, ὁ συγγραφεὺς ἀ-

φιερώνει ἰδιαίτερον κεφάλαιον ἐκ δεκαοκτὼ σελίδων.

Τὸ βιβλίον εἶναι πλουσίως εἰκονογραφημένον, πρᾶγμα τὸ ὁποῖον ὑποβοηθεῖ τὸν ἀναγνώστην νὰ ἀκολουθήσῃ καὶ ἀντιληφθῇ καλύτερον τὸ πεζὸν κείμενον. Ἡ ἁπλῆ ἀγγλικὴ γλῶσσα τὴν ὁποίαν χρησιμοποιεῖ ὁ συγγραφεὺς καὶ ἡ ἐκλαΐκευσις τοῦ κειμένου συναρπάζουν καὶ τοὺς πλέον ἀμυήτους εἰς θέματα Γεωμορφολογίας καὶ Γεωλογίας. Πιστεύω ὅτι τὸ βιβλίον αὐτὸ πρέπει νὰ ἀποτελέσῃ ἀπόκτημα κάθε καθηγητοῦ καὶ διδασκάλου τῆς Γεωγραφίας, κάθε γεωλόγου καὶ κάθε φυσιολάτρου. Τὸ σύγγραμμα δύναται ἐπίσης νὰ ἀποτελέσῃ ἄριστον βοήθημα διὰ ἐκπαιδευτικὰς ἐκδρομάς.

Ὁ συγγραφεὺς ἔχει εὐγενῶς παραχωρήσει ὅλα τὰ δικαιώματα τοῦ βιβλίου εἰς τὸ Συμβούλιον Διατηρήσεως τοῦ Φυσικοῦ Περιβάλλοντος τῆς Κύπρου.

ΟΘΩΝ ΓΙΑΓΚΟΥΛΗΣ, B.A., M.Sc.



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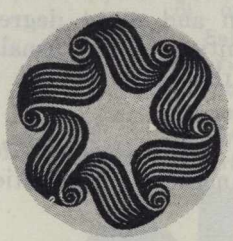

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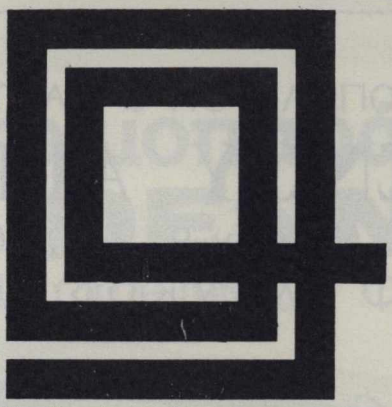

Ἡ Olivetti, μὲ τὰ 17 ἐργοστασιακὰ της συγκροτήματα, τὰς 29 θυγατέρας ἑταιρείας, καὶ μὲ ἀντιπροσωπείας εἰς περισσοτέρας τῶν 120 χωρῶν εἰς τὰς πέντε ἠπείρους, διαθέτει τὴν μεγαλυτέραν ποικιλίαν μηχανῶν γραφείου καὶ συναφοῦς ἐξοπλισμοῦ. Εἶναι οἱ μεγαλύτεροι παραγωγοὶ ἀριθμομηχανῶν. Ἡ μία εἰς τὰς τρεῖς ἀριθμομηχανὰς εἰς ὁλόκληρον τὸν κόσμον εἶναι Olivetti. Διαθέτουν ἐπίσης τὴν εὐρυτέραν ποικιλίαν γραφομηχανῶν (χειροκινήτων καὶ ἠλεκτροκινήτων) εἰς τὸν κόσμον.

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Κατασκευάζουν λογιστικὰς μηχανὰς μετὰ ἢ ἄνευ διατρητοῦ ταινίας, τηλέτυπα, συστήματα παρακολουθήσεως καὶ ἐλέγχου τῆς παραγωγῆς, συσκευὰς καὶ συστήματα μὲ μαγνητικοὺς καὶ ὀπτικοὺς χαρακτήρας, terminals, φωτοαντιγραφικὰς μηχανὰς καὶ ὄργανα μηχανουργικῆς αὐτοματοποιήσεως δι' ἀριθμητικοῦ ἐλέγχου (numerial control).

Ἐπὶ πλέον μὲ τὴν βοήθειαν ἀρτίως ὀργανωμένου δικτύου τοπικῶν ἀντιπροσώπων εἶναι παντοῦ ὅπου ἀπαιτεῖται ἡ παρουσία τους. Δώσατε τὴν εὐκαιρία εἰς τὴν Olivetti νὰ σᾶς βοηθήσῃ διὰ νὰ καταστήσετε τὴν ὀργάνωσιν τῆς ἐπιχειρήσεώς σας ἀποδοτικήν.

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- Βιβλία — βοηθήματα διὰ καθηγητὰς καὶ μαθητάς.
- Ὅλα τὰ σύγχρονα ἐποπτικὰ μέσα διδασκαλίας.
- Γεωγραφικοὺς καὶ Ἱστορικοὺς χάρτας.
- Ἄτλαντες Ἑλληνικοὺς καὶ Ξένους.

•

- Ὅλα τὰ εἴδη γραφικῆς ὕλης,
- Ὄργανα δι' Ἀρχιτέκτονας καὶ Τεχνικὰ γραφεῖα.

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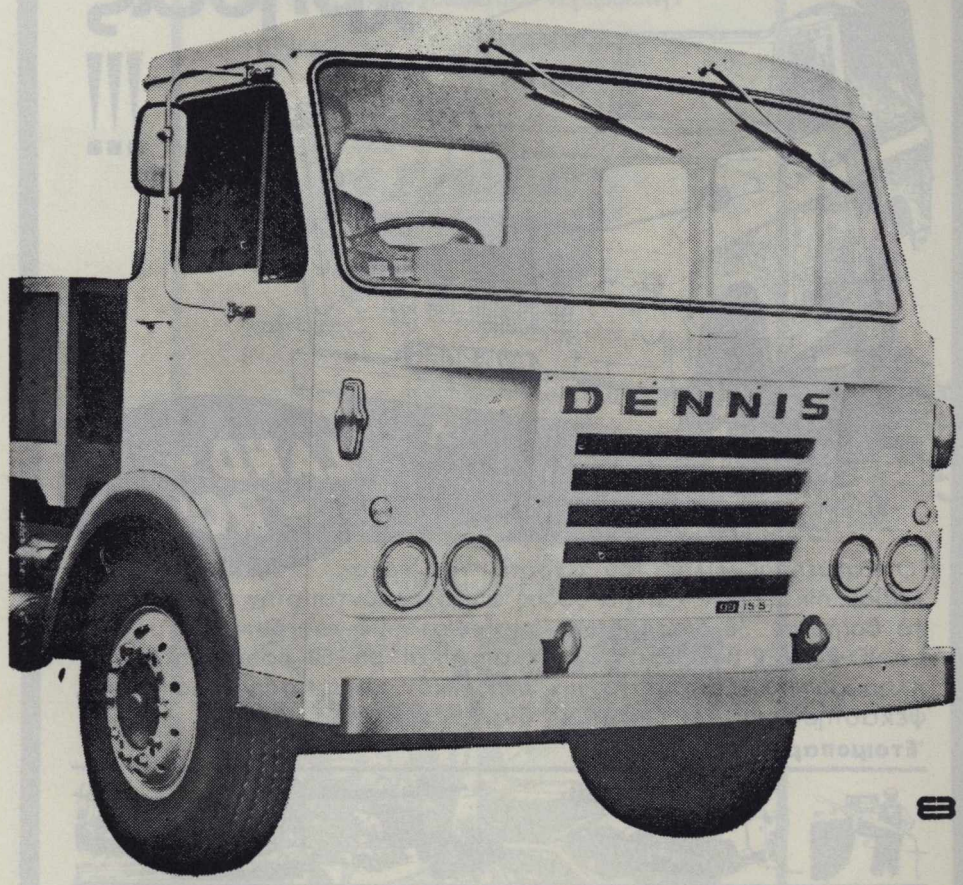

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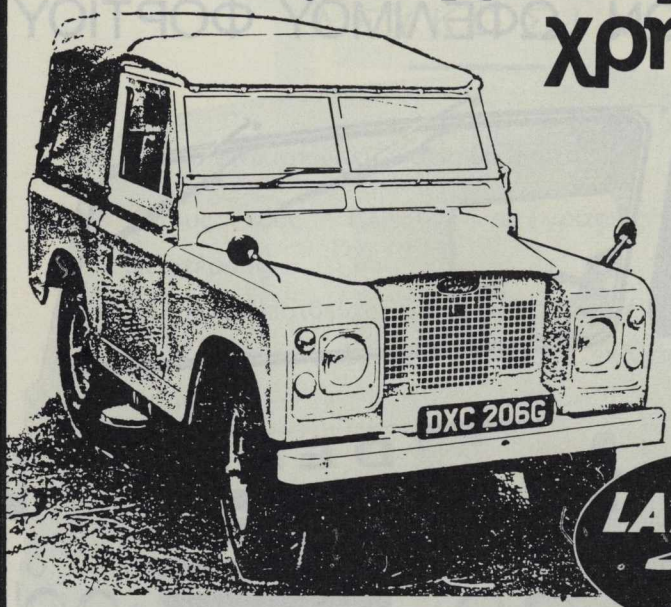

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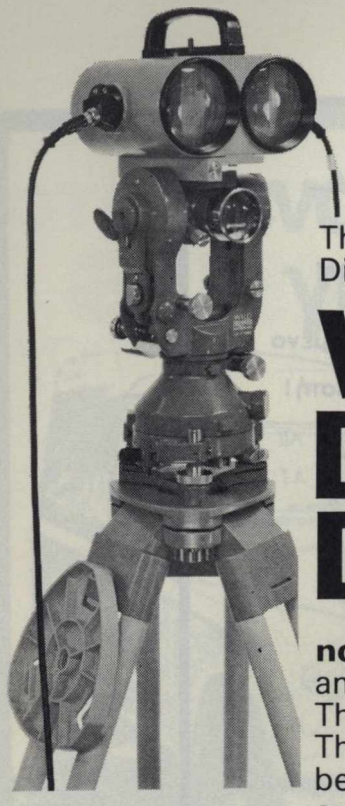

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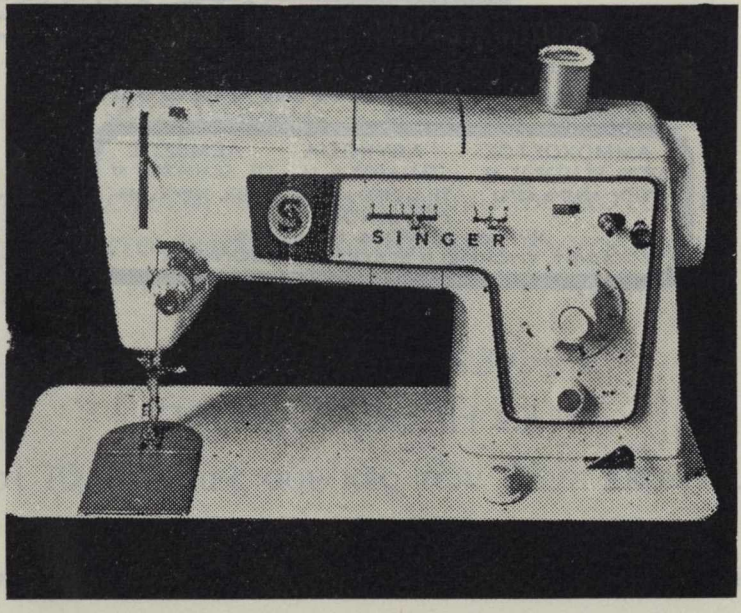

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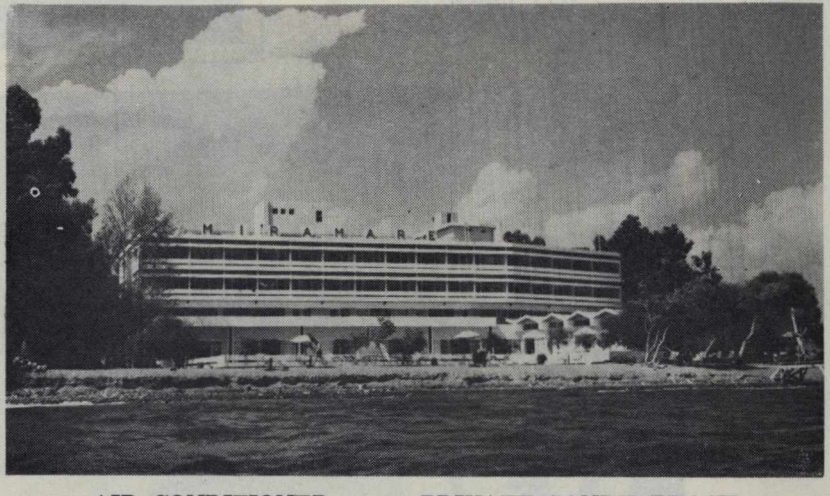

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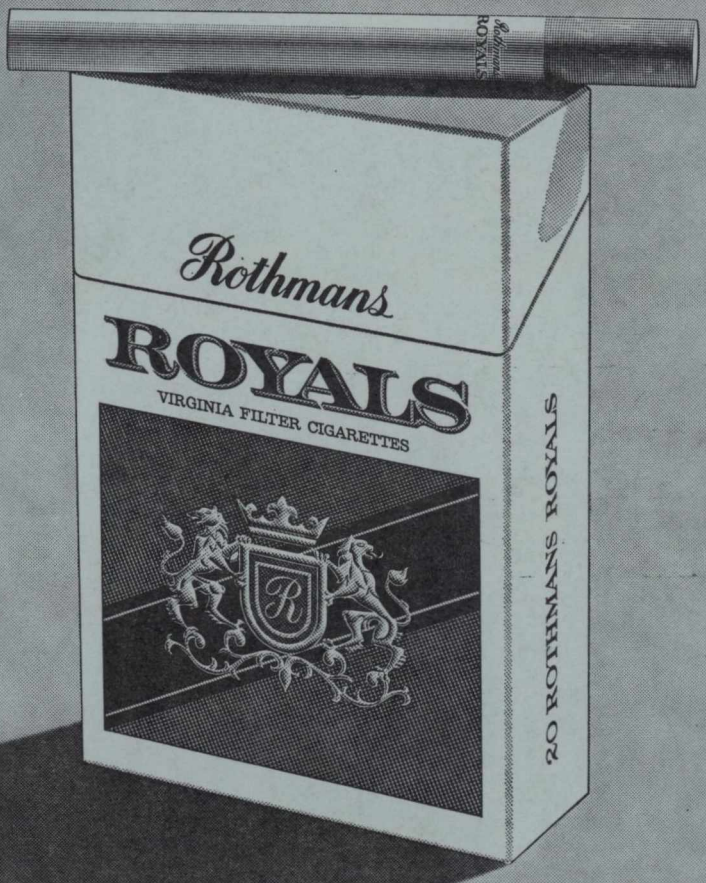

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