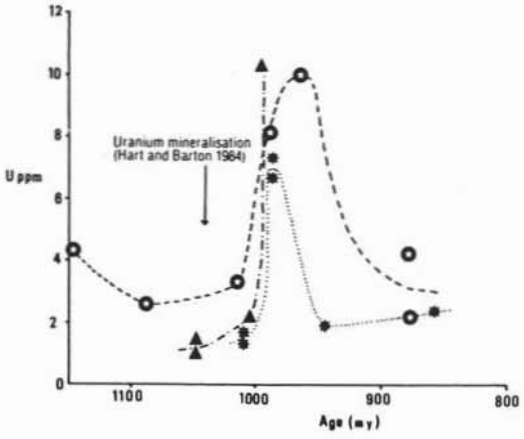


everywhere intruded into previously deformed supracrustal gneisses, the basement to which has not yet been identified.

Isotopic work (BARTON et al., 1981; EGLINGTON and HARMER, 1984; EGLINGTON et al., 1986) have suggested that the granites were derived by reworking of a relatively juvenile protolith and that no significantly older components such as the Archaean rocks to the north were involved.

In contrast to the Namaqua Metamorphic Province, little economic mineralisation has been found in the Natal sector of the Namaqua-Natal Belt although locally enriched occurrences are known. A survey of possible uranium occurrences found that there was a relationship between the U concentration and Rb-Sr whole-rock age. This relationship was unrelated to chemistry, textural nature or structural position of the plutons, with a significant increase in the U concentration being displayed by all granites intruded circa 1000 Ma, i.e. coinciding with the major tectonometamorphic event (Fig. 2). Whether this represents a major introduction of uranium into the crust at this time or re-concentration through scavenging by the rising plutons is unknow.

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## LAGO M.*, ENRIQUE P.**, POCOVI A.*, VAQUER R.** - *Occurrence and characteristics of granitoid xenoliths in calcalkaline dikes of a variscan Massif of the Iberian Chain (NE Spain)*


Hypabyssal dikes of basaltic-andesite and rhyolite are frequently found in the Montalbán variscan outcrop (Iberian Chain, NE Spain; Figs. a), b) and c). They have calcalkaline composition and are of the Stefanian-Permian age. Different granitoid xenoliths occurs in some of these andesitic dikes. They are elongated parallel to dike (Fig. d). Some data about petrological and geochemical composition are included.

The xenoliths and variscan granitoids of neighbouring areas (Central Iberian Zone and Pyrenean area) are compared in the basis of these data in order to give some petrological remarks.


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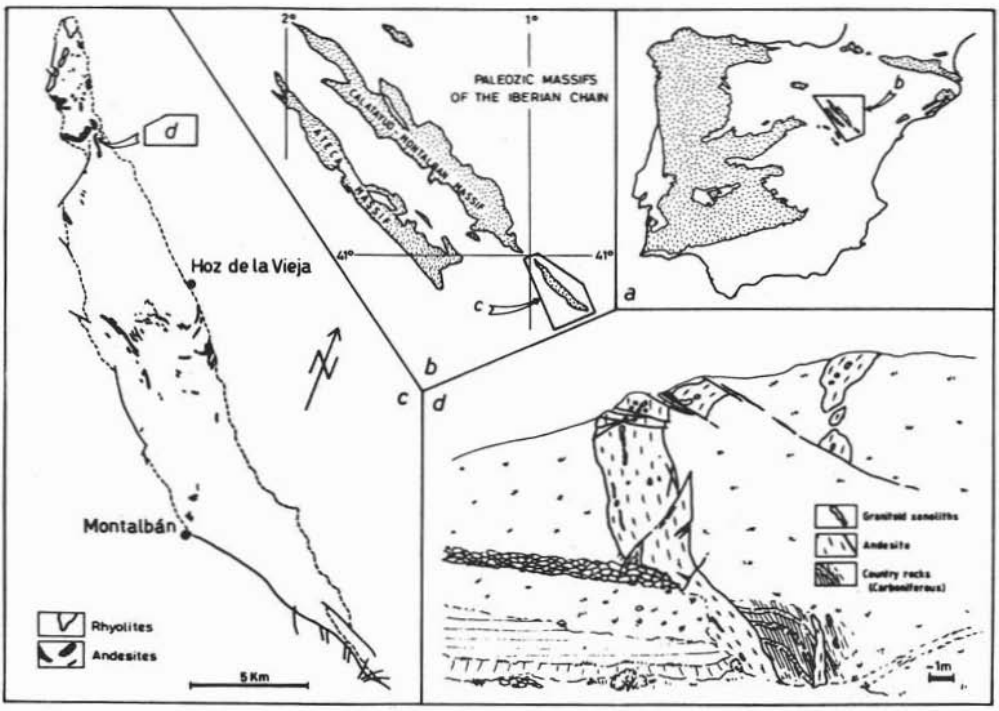


## LAMEYRE J.* - *Granite settings and tectonics*

Among the orogenic granites generated during the geological history of France importance is given to some aspects of the correlations between granite types and tectonic settings, with references to recent examples, for instance:

— changes in time and space from one type to another;
— possibile significance of cordierite-bearing granodiorites which occur in an intermediate position between typical calcalkaline ranges and areas occupied by K-rich monzonitic series;
— control of megashears on the emplacement of granitoids;
— tectonic role of leucogranites and consequences of their emplacement on the distribution of the metamorphic series.

When comparing the within-plate oceanic anorogenic province of Kerguelen Island with some continental provinces it is clear that there are striking similarities in petrographical, mineralogical and geochemical characteristics of the magmatic series in both situations and one is driven to give more interest to the mantle than to the nature of the crust.

However attention should be focused on some others aspects of the anorogenic provinces for instance:

— situation and shapes;
— age distribution;
— localisation and types according to the nature and history of the crust;
— changes in time and space from one magmatic type to another.

Consideration of these different points supports the idea that anorogenic provinces may also be related to tectonic events and controlled, in some respects, by the nature, history and dynamics of the lithosphere.

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## LAPORTE D.*, FERNANDEZ A.**, ORSINI J.B.* - *Structural analysis of the Ile-Rousse Pluton, Northwestern Corsica*

The structural analysis reveals *the syntectonic nature of the Ile-Rousse Pluton*. The different magmatic pulses which compose this pluton, *intrude an anatectic basament undergoing an East-West shortening.*

In this context, the following kinds of magmatic structures develop:

— *penetrative planar fabrics* (S ≫ L, FLINN, 1965) with an average orientation N 170 E - 75 W; such structures grow in a deforming magma still containing a substantial amount of interstitial liquid (more than about 35%);
— *synmagmatic shear zones* which develop at the end of the crystallization story (less than about 35% residual liquid) when the jointed phenocrysts can no loger move freely and orientate by rigid rotation.

The statistical analysis of the orientation of K-feldspar megacrysts allows us to distinguish two main types of

penetrative magmatic fabrics (Figure):
— those wiht axial symmetry (type A) result from coaxial deformation (flattening) with shortenings locally exceeding 75%;

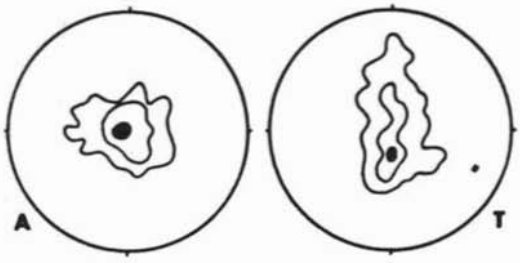


Fig. 1. — The two main types of penetrative magmatic fabrics in the Ile-Rousse Pluton (equal area projection of 120 poles to (010) plane of K-feldspar megacrysts).

— those with monoclinic symmetry (type T: «triton-shaped» fabrics) develop where primitive axial fabrics are deformed by simple shear ($\gamma \simeq 4.5$).

Following the conclusions of petrological and structural studies, a model of emplacement and structuration of the Ile-Rousse Pluton is proposed and extended to the other intrusions of Northwestern Corsica.

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## LAPORTE D.*, ORSINI J.B.*, FERNANDEZ A.** - *Petrological study of the Ile-Rousse Pluton, Northwestern Corsica: contribution to a better knownledge of the corso-sardinian batholith*

Within the corso-sardinian batholith, two well-contrasted association of hercynian granitoids are distinguished (ORSINI, 1980):
— the volumetrically dominant calcalkaline association
— the magnesiopotassic association.

The second one is composed of K-rich, Fe- and Ca-poor granitoids, abundant in Northwestern Corsica.

The Ile-Rousse Pluton differs by its complexity from the other intrusions of Northwestern Corsica. Indeed, it is made up of several kinds of granitoids which are regrouped in two main petrogenetic types:
— the magnesiopotassic granitoids have deep crustal sources (about 40 km) and are associated with vaugneritic magmas of mantellic or infracrustal origin;
— other granitoids — such as the Corbara granodiorites — are derived from the melting at intermediate crustal levels (about 20 km) of metasedimentary source (S-type granitoids).

Our petrographical, mineralogical and geochemical data concerning the former group reveal the variety of the magnesiopotassic magmatism. This important result can be extended to the whole of Northwestern Corsica: five main groups of magnesiopotassic granitoids are distinguished and differ by their $K_2O$ contents, modal compositions... They would correspond to five genetically independent magmatic sequences.

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## LUECKE W.* - *Litium in spodumene pegmatites and lithium in Li-muscovite pegmatites (greisen) of the Leinster Granite (SE Ireland)*

Quartz-feldspar-mica pegmatites and aplites as well as unzoned spodumene pegmatites are spatially closely related to the easter contact of the Leinster Granite with Lower Paleozoic metasediments.

The massif, covering an area of approximately 2700 square kms south of Dublin, intruded the crust in Late Silurian to Early Devonian rimes along NE-SW (Caledonian trend) striking zones of structural weakness. The alkali-feldspar rich granite turns out (after Streckeisen) to be a monzogranite-granodiorite; certain marginal regions of the granite, however, have a more tonalitic composition due to a strong depletion in K as consequence of late stage subsolidus alteration.

In such area microcline became corroded and biotite was altered intesively to chlorite, releasing Li, Rb, Cs, F etc. Widespread overburden necessitated boulder mapping, trench sections and drillings by the I.B.M. Ltd. (Dublin) in order to localize the extension of the different Li-pegmatites. Qz-fsp-mus pegmatites and cogenetic Na-aplites (both low in Li) predate spodumene pegmatites which were derived from more developed magmatic residual melts, now rich in Li, Rb, Cs, Be etc. as a result of retrograde boiling with subsequent migration of acqueos fluids (JAHNS & BURNHAM, 1969). Li seems to be the first alkali-trace element available in this sequence and was fixed in spodumene. Muscovite apparently is a some-what later product because of high amount of Rb and Cs, but relatively low Li-contents, though this mineral is generally able to incorporate high Li-concentrations. Greisen-generated Li-muscovite pegmatites grown at the expense of the order spodumene pegmatites may have been supplied additionally with Li, Rb, Cs and F, liberated by the alteration of granite (see above): measured isotopic rations of 6/7 Li of spodumene are different from those of Li-muscovite, thus supporting the idea of a further source for Li besides the magmatic rest-liquids.

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