

THE DATA FOR OROGENIC STUDIES PROJECT

This volume is the first result of the Geological Society's research project, the history of which is outlined by Dr P. E. Kent in the Foreword (p. vi). The second part of the project, now in progress, is explained in greater detail below.

Aims and organization of the project

The most dramatic new discoveries about the structure of the Earth in recent years have been those arising from the investigations of the ocean floors and the deep structure of the Earth (as it now is) by geophysical means. For a long time, however, a much larger bulk of information has been accumulating from the investigations of the continental masses; moreover, this information generally yields evidence of successively earlier stages in tectonic history. It is clearly essential in elaborating geotectonic hypotheses to take into account all the relevant evidence, and failure to do so may, in large measure, be attributed to the difficulty of searching through an enormous bulk of literature on continental tectonics and also to the subjective way in which much of it appears. It therefore seemed appropriate and timely to make available tectonic data aiming at a convenient and objective presentation.

It is intended to compile and analyse data related to the structure and history of about 50 selected Cainozoic and Mesozoic orogenic belts throughout the world, by inviting contributions from those familiar with the various orogenic regions. With their co-operation, representative coverage should be achieved. At the same time, to achieve maximum objectivity and comparability of the contributions, it has been decided to request the data by means of a carefully designed questionnaire which will, so far as possible, provide quantitative or 'yes/no' answers. The possibility of using this information for computer analysis has been kept in mind. Expressions of personal opinion and evaluation are also encouraged, within reasonable limits, and provision is made for this in the questionnaire.

An office has been set up within the Geological Society to co-ordinate replies and to produce the appropriate maps, sections and diagrams. This information will be issued by the Geological Society in a Special Publication, uniform with this volume. Each segment will be presented in separate, illustrated chapters, as far as practicable in a uniform style.

The following are the belts for which geologists with an expert knowledge of the area concerned have been invited to complete the questionnaire. Most have agreed to do so, and about one-third of the completed questionnaires have been received and are being analysed at the time of going to press.

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| 1 W. Atlas and Rif | 5 French Alps |
| 2 E. Atlas | 6 Swiss Alps |
| 3 Betic Cordillera | 7 E. Alps |
| 4 Pyrenees | 8 Carpathians |

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9 Rumania	33 New Zealand
10 N. Appennines	34 Phillipines
11 S. Appennines	35 Taiwan
12 Dinarides	36 S.W. Japan
13 Hellenides	37 N.E. Japan
14 Taurus Ranges	38 Sikhote Alin
15 Caucasus	39 Sakhalin
16 Elburz Mountains	40 Kamchatka
17 Zagros Ranges	41 Verkhoyansk Mountains
18 Soviet Central Asia	42 Chukotsky Mountains
19 Pamir-Karakorum Ranges	43 Alaska
20 Himalaya	44 W. Canada
21 Arakan Yoma	45 W. U.S.A.
22 W. Malaysia	46 Mexico
23 Borneo	47 Central America
24 Sumatra-Java	48 Caribbean
25 Banda Arc	49 Venezuela
26 Celebes	50 Columbia
27 New Guinea	51 Peru
28 Solomon Islands	52 Chile
29 New Hebrides	43 Scotia Arc
30 New Caledonia	54 Grahamland
31 Fiji	55 Canadian Arctic
32 Kermadec-Lau	56 Spitsbergen

Details of the questionnaire

This is in three parts:

- Part 1 General data on the orogenic belt and the selected segment (136 questions);
- 2 sub-division of the selected segment;
- 3 data on individual structural zones (74 questions).

The questionnaire is designed to elucidate the structure and history of a typical segment of the orogenic belt. Selection of the segment for each area is left to the individual contributor. Ideally the segment should be perhaps 100 to 200km wide and extend completely across the orogenic belt, from one non-orogenic margin to the other. Much of the questionnaire relies on the sub-division of the segment

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into structural zones; these should reflect fundamental or easily recognizable divisions each with distinctive surface geology and structural style.

Part 1 of the questionnaire is designed to collect general data on the shape, trend, elevation, geophysical and major tectonic structure, history and sedimentation of the orogenic belt. The scheme of sub-division of the segment is requested in Part 2. Detailed information—on structural units, stratigraphy, and igneous, metamorphic and structural history—is collected in Part 3, which is to be answered separately for each structural zone.