

(CERLETTI and ROTHLIN<sup>12</sup>). Adrenaline injected intravenously had inconstant effects in the animal of Figure 2. In another rabbit a heavy spontaneous 'arousal reaction' was followed by a more pronounced increase in the thyroid hormone release from the intact half of the gland than from the acutely denervated one. This indicates that nervous influence on the thyroid may be even more important than the effect of an increase of blood catechols during 'arousal'. Such experiments can, however, only be performed in animals in which the vascular anatomy is extremely favourable.

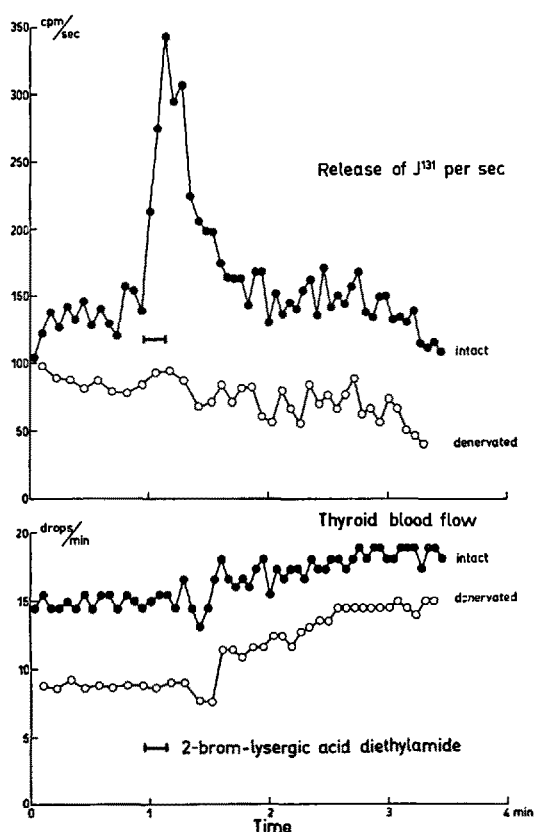


Fig. 2. — Male rabbit, 3.0 kg. Nembutal. Hormone secretion induced by exogenous TSH ('Actyron'). *Upper part:* Rate of release of hormonal  $I^{131}$  as in Figure 1B from intact and acutely denervated halves of thyroid. *Lower part:* Rate of venous outflow from the same halves. Brom-lysergic acid diethyl amide ('BOL-148') increases rate of release by more than a 100% in the intact half of the gland. Blood flow increases slightly in both halves. Blood pressure (not reproduced in the figure) showed slight transient fall.

It has thus been found that rate of uptake of iodine and rate of release of thyroid hormone may be widely independent of each other in the acute experiment. More experimentation has, however, to be done to permit an analysis of the long-time dependence that evidently exists.

The results show that changes in thyroid activities may be more rapid than was expected and that thyroid activity may be a useful index of vegetative changes both in physiological and pharmacological experiments even in animals subjected to small operations under anesthesia.

<sup>12</sup> A. CERLETTI and E. ROTHLIN, *Nature* 176, 785 (1955). — E. ROTHLIN, *J. Pharm. Pharmacol.* 9, 569 (1957). — The author is indebted to Sandoz AG., Basel (Switzerland) for 'BOL-148'.

Nervous and hormonal stimuli have been shown to have marked effects on thyroid hormone secretion. However, these effects are due to changes in the responsiveness to TSH and cannot be demonstrated in the absence of the pituitary hormone. The uptake of TSH by the thyroid gland may also be related to thyroid blood flow governed both by nerves and hormones.

A detailed description of this work will be presented in the near future<sup>13</sup>.

*Note added during correction of proof:* Since this paper was sent to the Editor, a description of measurement of thyroid blood flow from thyroid  $I^{131}$  clearance and  $A-V$  difference in the rabbit has been presented in *Amer. J. Physiol.* 192, 268 (1958) by E. F. MONKUS and E. P. REINEKE. Their work beautifully supports the view that thyroid blood flow and the effect of TSH do not always go hand in hand. In a group of rabbits with mean acinar cell height of  $4.7 \mu$  the  $A-V$  difference was 25%, in another group with mean cell height of  $7.9 \mu$  the  $A-V$  difference averaged 57%.

### Zusammenfassung

An 18 Katzen und 66 Kaninchen wurde die Beziehung zwischen Schilddrüsendurchblutung, Aufnahme von Jod in die Schilddrüse und Abgabe von Schilddrüsenhormon untersucht. Das anorganische und das an Eiweiss gebundene Jod wurde im arteriellen und im venösen Blut der Schilddrüse mit Hilfe radioaktiver Isotopen bestimmt. Die Durchblutung wurde als Frequenz der von dem freien Ende einer in der Schilddrüsenvene befindlichen Kanüle fallenden Tropfen registriert. Es zeigte sich, dass die Geschwindigkeit der Jodaufnahme im wesentlichen proportional der Durchblutung ist, während die Geschwindigkeit der Abgabe von hormonalem Jod durch das thyreotrope Hormon der Hypophyse (TSH) bestimmt wird. Nervöse und hormonale Reize führen auf dem Weg über Durchblutungsänderungen innerhalb kurzer Zeit zu einer Veränderung der Aufnahmegeschwindigkeit und beeinflussen ausserdem die Hormonabgabe durch Änderung der Empfindlichkeit der Schilddrüse gegenüber dem TSH. Die Aufnahme von TSH in die Schilddrüse hängt wahrscheinlich von der Durchblutung ab. Bromlysergsäurediäthylamid, das an der intakten Schilddrüse die Abgabe von hormonalem radioaktivem Jod erhöht, ist an einer akut denervierten Schilddrüsenhälfte ohne Wirkung; daraus kann geschlossen werden, dass die Schilddrüsennerven eine fördernde Wirkung auf die Hormonfreisetzung haben.

<sup>13</sup> U. SÖDERBERG, *Acta physiol. Scand.* 42, Suppl. 147, (1958).

## CONSTRUCTIONS

### An Experiment in the Design of a Scientific Conference

The purpose of this note is to report on a conference design that differed somewhat from the traditional plan of scientific meetings, and on its possible value for similar scientific conferences.

As science progresses, as the number of scientists increases and as scientists become more specialized, the problem of communication among scholars becomes more and more pronounced. The large scientific conventions and the international congresses that several decades ago

provided an adequate form for technical discussion are no longer performing this function because of the tremendous increase in the number of participants and of the ensuing limitations of time. For the last twenty years or so symposia, i.e., scientific meetings with limited attendance and with only invited speakers, have been used more frequently because of the advantages offered by bringing together a relatively small number of specialized scientists. The climate of such gatherings is more conducive to a high level of technical discussions than the larger and more heterogeneous scientific congresses. When, however, the symposium has a relatively large number of participants and their primary interests are diverse, a problem of communication arises. One such problem was faced by the organizers of the international symposium on 'Perspectives in Marine Biology', held at the Scripps Institution of Oceanography of the University of California at La Jolla, California.

The primary purpose of this conference was that of identifying those areas of investigation that could be most profitably attacked at the experimental level in the field of marine biology. For this aim it appeared necessary to invite a number of biologists representing a wide range of specialized interests, such as marine and non-marine ecologists, physiologists, microbiologists, biochemists, etiologists, geneticists and evolutionists. The actual participation was as follows: 47 invited participants, 131 observers; 14 nations were represented. In developing the conference design, the planners considered the following problems which were inherent in the nature of the symposium: (1) the difficulty of communication between specialists in the different scientific fields represented; (2) language problems because of the different nationalities represented; (3) the tendency of some scientists to focus on single areas of research rather than on broad problems of the total field; (4) the reluctance of some scientists to explore unfamiliar grounds in the presence of their colleagues; and (5) the tendency of specialists in a particular field of science to seek out and converse with colleagues from the same field rather than from other disciplines.

In one respect this conference was like many other symposia: scientists were invited to prepare papers in advance and read them at the meeting; each formal presentation was followed by a discussion of the issues raised by the speaker, to which all the attendants, invited and observers, were free to participate. However, in order to provide a setting in which interdisciplinary thinking could better take place and where new areas of research might be found, this particular symposium included another element: the 'Idea Group'. Six such groups, consisting of eight or nine invited participants, plus a discussion leader and a recorder, met periodically throughout the conference. Each 'Idea Group' included scientists from the different fields represented at the conference. These heterogeneous groups met every noon for lunch and several other times during the symposium. Their stated purpose was that of dealing with the broad question around which the entire symposium was built: What are now the most promising areas of experimental research in the field of marine biology? The 'Idea Groups' were instructed to use the formal presentations as background and as a springboard for discussing this general problem. The discussion leaders and recorders of each 'Idea Group' were members of the staff of the host Institution. A week prior to the conference, these leaders and recorders met to be oriented to the conference design, the purpose of the 'Idea Groups', methods to get them under way, and the roles the leaders and the recorders were expected to play.

The recorders prepared a written summary of the subjects discussed during each working session of the groups; the highlights of these discussions were also reported to all the members of the symposium at the final session by a panel including one person from each 'Idea Group'.

At the end of the conference each participant was asked to fill out an evaluation form in which questions were asked about the value of this conference design.

In spite of some doubts expressed at the beginning of the conference about the value of the 'Idea Group', the participants at the end expressed general satisfaction with this experience and felt that this kind of conference design would be useful in other scientific conferences of this type. The planned heterogeneity of the groups appeared to be useful and appreciated in that it provided a fine opportunity for participants in the conference to become better acquainted with colleagues from other disciplines. Probably the term 'Idea Group' was not very fortunate; a more appropriate name might be adopted in future conferences. A thorough orientation of the leadership (leader and recorder) prior to the conference appears essential for the success of this technique. That this design has a definite value in symposia of this kind follows also from the fact that one of the participants used it successfully in the organization of another scientific conference held in France last summer.

A. A. BUZZATI-TRAVERSO\*  
and W. H. SCHMIDT

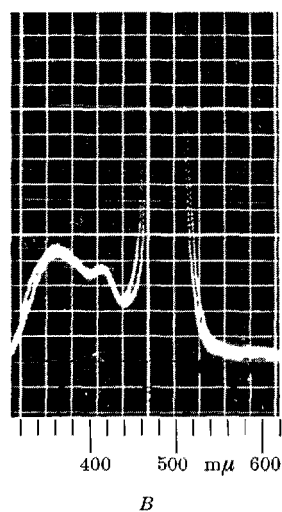
*Scripps Institution of Oceanography, La Jolla, California and Department of Conferences and Special Activities, University of California, Los Angeles, May 9, 1957.*

\* Gegenwärtige Adresse: Istituto di Genetica, Pavia.

## Corrigendum

Å. BERTLER, A. CARLSSON, MARGIT LINDQVIST, and T. MAGNUSSON: *On the Catechol Amine Levels in Blood Plasma after Stimulation of the Sympathoadrenal System*. Exper. 14, fasc. 5, 184 (1958).

There has been an error in the scale of the Figure B on page 185; corrected scale see below:



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