oxygen consumption of the diaphragm versus animal size with a slope of approximately 0.74 (log log scale) —for practical purposes identical with the slope for total oxygen consumption of the animal vs. body size. Field, Belding, and Martin (*J. Cellular Comp. Physiol.*, **14**, 143 [1939]) attributed half the tissue oxygen consumption for which they could give an account to muscle. The findings of von Bertalanffy and Pirozynski, therefore, to the extent that comparisons between immature and mature animals are justified, support the view expressed by Krebs (*Biochim. et Biophys. Acta*, **4**, 249 [1950]) (who did not publish data on muscle): "The characteristic differences in the basal rate of heat production in animals of different size are to be attributed mainly to variations in the Q_{O_2} of the musculature."

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The interesting comment by K. Schmidt-Nielsen raises questions that were only touched in our preliminary communication.

The decrease in weight-specific basal metabolic rate, as expressed in the surface, or ¾-power, rule, can be explained in two ways—namely, that it is based upon intrinsic differences of cell respiration in animals of different size which will show up also *in vitro*; or that it is regulated by factors lying in the organism as a whole. Of course, there may be also a combination of both possibilities. If the first alternative is accepted, two hypotheses can further be distinguished; namely, (1) that the decline in weight-specific metabolic rate is based upon a decline of Q_{O_2} in some tissue or tissues, and (2) more specifically, that all tissues show a corresponding and parallel decline in Q_{O_2}, as proposed by Weymouth *et al.* (*Proc. Soc. Exptl. Biol. Med.*, **49**, 367 [1942]). Our results, and also those of Krebs, contradict the second hypothesis. As far as the first hypothesis is concerned, we have noticed, of course, that the diaphragm, as the only muscular tissue used in our experiments, shows a remarkable decline of Q_{O_2}, and that this corresponds to Krebs' view that variations in the Q_{O_2} of masculature are responsible for those in basal metabolic rate. Statistical evaluation of our data for diaphragm gives an exponent $\alpha = -.26$, with a high correlation coefficient $\rho = .93$. Further experiments with skeletal muscles are on our program. A quantitative estimate assuming a decrease in Q_{O_2} similar to that of the diaphragm for total musculature, and attributing, according to Field *et al.*, half of total oxygen consumption to musculature, shows, however, that variations in the Q_{O_2} of musculature cannot be considered as the main factor for the differences of basal metabolic rate within the same species.

We have no prejudice against the "cellular" interpretation. The results favoring it are mentioned in our paper, and our investigation was actually started in the hope of contributing to that view. On the other hand, "organismic" factors are acknowledged, for example, by Kleiber, who points at hormonal and neural regulators, concentrations of ions, nutrients, oxygen, etc., and considers "the analysis of these factors controlling the metabolic level *in vitro* and *in vivo* a most fruitful field for further research" (*Physiol. Rev.*, **27**, 523 [1947]).

Our experiments naturally tell nothing about interspecific relations in tissue metabolism, which were studied by Krebs. Though the physiological differences between newborn and adults are great, the same is true for anatomical, physiological, biochemical, ecological, etc., differences even between related species, not to speak of comparisons "from the mouse to the elephant." The striking fact is that in spite of this simple quantitative relations can be established. Our own work is mainly concerned with intraspecific relations in metabolism because it appears that they are basic in the connection between metabolism and growth and the mechanism of the latter (*cf. Am. Naturalist*, **85**, 111 [1951]).

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Time of Flowering of *Delonix regia*

THE royal poinciana, or "flame tree," *Delonix regia* (Bojer) Raf., called by the Spanish "flamboyant," is endemic in Madagascar, and possibly its poor adjustment to the seasons of the Northern Hemisphere is due to its origin in the Southern Hemisphere. The entire foliage of individual trees sometimes turns yellow, presenting a magnificent spectacle for a few days, like a sugar maple in New England. The feathery leaves, dropped at the same time, cover the ground with an even thicker and more even layer of yellow than the uneven red litter when the blossoms fall. Such trees appear in every other way similar to others near by and quickly have a new crop of leaves. They show no subsequent idiosyncrasy at time of blossoming, but idiosyncrasies are somewhat difficult to detect, for blossoming starts very slowly along the roads of coastal Puerto Rico in mid-May (too late for the tourist season), with most trees in full bloom in June and July, and some straggling on into August and September. Of some two dozen trees planted with seed from a single tree, accidentally selected after the last hurricane of San Ciprián because it was the only one to produce seed, variation in the time and amount of blooming is as great as though no selection had been made.

A trip across the island of Puerto Rico from Río Piedras to Aguirre on May 11, 1951, disclosed conspicuous differences in the amount of flowering of flamboyant. At Río Piedras, where the elevation above sea level is less than 100 ft, the only indication of fresh foliage and blossoming was on a single branch directly underneath a street light. In the hills between Río Piedras and Caguas a few trees had begun to bloom, but it was only in the much higher hills between Caguas and Cayey (elevation 1,233 ft) that

many trees were in bloom. Between Cayey and the pass over the mountains at El Collao (somewhat over 2,000 ft in elevation), practically all flamboyant trees were in full bloom. On the descent to the south coast, again only a few feet above sea level, as on the north coast, the production of foliage and the opening of the flower buds had not begun. Definitely, this was not a reaction to rainfall. After a drought since the first week in December 1950, Río Piedras received much more (8.14 in. for the week ending May 8, 1951) in the last days of April than any other locality of the south coast or in the mountains. Instead, it seems a reaction to elevation and temperature quite the reverse of what is considered normal. Lower temperatures seem to stimulate early blooming instead of causing retardation.

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Filing Lantern Slides

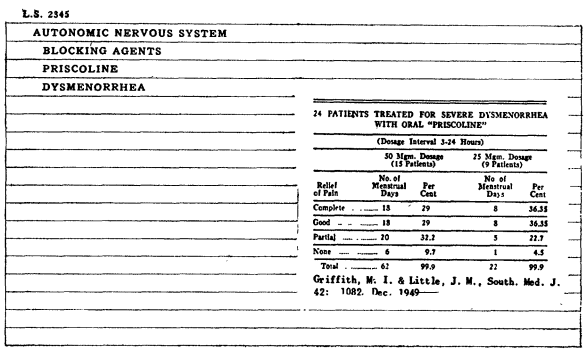
THE task of storing and arranging lantern slides in a manner that permits quick and appropriate selection has long been difficult and irksome. Our very workable but not ideal system (not established elsewhere to the best of our knowledge) may be of interest to others who have similar needs.

At present we have more than 2,500 lantern slides in steel files for the use of various members of the Research Department for presentations before the research staff or extramural groups. In order to permit wide use of slides made for several departments it was deemed advisable to keep them all in one place rather than to permit each person to control his own collection.

Our system requires two units—one for the slides, which are kept in numerical order, and the other for reference cards, which are arranged alphabetically according to the topics dealt with on the individual lantern slides. The right-hand side of each 5″ × 8″ card is reserved for an inexpensive photograph, which is made from the negative used to produce the slide; this print occupies not more than one half of the card, leaving the left side for the corresponding number, classification, and interpretation of the slide (Fig. 1). Each slide, as soon as it is made, has a number assigned to it, thus eliminating the cumbersome, inflexible procedure of attempting to keep slides filed by topic.

If taken from a publication, the slide includes the name of the author with the complete bibliographic reference, thereby assuring proper accrediting of the source of information, and enhancing the value of the illustration for reference purposes. Information regarding classification of the card is supplied by the person for whom the slide is made, since presumably he is in the best position to supply it.

As many alphabetically arranged cross-reference cards may be prepared as the subject matter of the individual slides warrants. If one were especially interested in "Blocking Agents" as a lecture topic, for instance, one could thumb through all the cards listed thereunder and, without reading the indexed explanation on the left-hand side of the card in detail, merely glance at the photographs to select desired material. Picking out the particular slides by number is then a simple and rapid operation.


L.S. 2345

AUTONOMIC NERVOUS SYSTEM

BLOCKING AGENTS

PRISCOLINE

DYSMENORRHEA

24 PATIENTS TREATED FOR SEVERE DYSMENORRHEA WITH ORAL "PRISCOLINE"

(Dosage Interval 3-24 Hours)

	50 Mgm. Dosage (15 Patients)		25 Mgm. Dosage (9 Patients)	
Relief of Pain	No. of Menstrual Days	Per Cent	No. of Menstrual Days	Per Cent
Complete	18	29	8	36.35
Good	18	29	8	36.35
Partial	20	32.2	5	22.7
None	6	9.7	1	4.5
Total	62	99.9	22	99.9

Griffith, M. I. & Little, J. M., South. Med. J. 42: 1082. Dec. 1949

FIG. 1.

Of further interest is our custom of keeping pertinent information on every lecture given. All this is retained on one 8″ × 11″ sheet filed in a manila folder ("Speeches") according to the date of the presentation. It names the group before which the lecturer appeared and gives the date, the topic, and a complete annotated list of slides employed.

We have found this system of listing and filing lectures convenient for several reasons; namely: (1) it avoids duplication in presenting material before the same group; (2) it assists in the preparation of lectures for new groups, since considerable scientific information can be adapted by the lecturer to various professional and lay groups according to their level of training and interests; (3) it serves as a handy reference, immediately available in one's desk drawer, for bibliographic purposes either in correspondence or in the preparation of manuscripts and reports.

The success of this plan depends upon the cooperation of the secretary in charge of checking out the file cards, the photographer who checks out the lantern slides, and the individual using the materials. As a rule, the cards and slides are returned within 24 hr or less after use so that they may be available to the next individual. Duplicates are made only of those slides that are in frequent demand, so that there may be no delay in scheduled presentations when emergency requests arise.

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