Thiocyanate and sulphanilamide were estimated in the successive samples of saline solution removed from the stomach (see accompanying table) and in samples of blood, where their concentrations until the end of the experiment were never lower than $4 \times 10^{-3} M$ and $6.4 \times 10^{-3} M$ respectively. At the end of the experiment the blood vessels of the stomach were perfused with saline solution, the stomach removed, the gastric mucosa separated from the muscular coat, ground with sand and ten volumes of water and centrifuged. The opalescent extract collected was estimated in the usual way for the activity of carbonic anhydrase and for the contents of thiocyanate or of sulphanilamide. Control cats were treated in the same way except that they were not injected with either thiocyanate or sulphanilamide.

The main results of these experiments, typical examples of which are shown in the figure and the table, can be summarized as follows:

(1) Both thiocyanate and sulphanilamide are excreted by the gastric mucosa and reach a fairly high concentration within the mucosa itself. It is therefore reasonable to assume that they have reached the carbonic anhydrase and had time to react with it.

(2) Thiocyanate, while it strongly depresses the gastric secretion of hydrochloric acid stimulated by histamine, is not a strong inhibitor of the carbonic anhydrase.

(3) Sulphanilamide, on the contrary, while it either does not affect the secretion of hydrochloric acid stimulated by histamine, or even increases it, inhibits completely the activity of the gastric carbonic anhydrase.

The results of these experiments do not seem therefore to support the view that carbonic anhydrase catalyses directly the gastric secretion of hydrochloric acid. This does not exclude, however, the possibility that the enzyme may yet have an indirect connexion with the gastric secretion of HCl, considering that this secretion is known to be accompanied by an increase in the total base of the serum^{5,6}. That the carbonic anhydrase takes part in the acid-base metabolism of the body is moreover indicated by the well-known disturbance in the acid-base equilibrium which follows the administration of sulphanilamide.

Physiological Laboratory,
and
Molteno Institute,
University of Cambridge.
Oct. 30.

W. FELDBERG.
D. KEILIN.
T. MANN.

Genus	O	A	B	AB	AB (calc.)
Orang	0	8	10	5	11.41
Gorilla	0	6	3	2	5.09
Gibbon	0	2	7	2	4.36

or AB. This distribution in them is shown in the accompanying table.

The last column gives the numbers of AB animals expected if there were random mating within the genus the members of which are grouped together. For in the absence of group O we can be reasonably sure that all, or almost all, A and B animals were homozygous, if the genetics of blood groups are the same in apes as in men. Thus of 46 orang chromosomes 21 carried A and 25 B. If mating were at random we should expect a frequency $\frac{2 \times 21 \times 25}{46^2}$

of AB among orangs, or 11.41 out of 23. The total of AB found is 9, as compared with 20.86 calculated. The difference is 3.6 times its standard error, and certainly significant.

The non-randomness of mating may be due to the existence in these genera, as in man, of different blood group frequencies in different areas, or to inbreeding, or both. A fairly intense degree of inbreeding would be needed to halve the expected proportion of heterozygotes. This would, for example, occur if 80 per cent of all matings were between brother and sister, the rest being at random. It is at least equally probable that the distribution of blood groups in these genera varies geographically at least as much as in man. Unfortunately many of the papers in the literature do not even give the species or subspecies of anthropoid investigated, and very few if any give the place of capture or those of the wild ancestors.

Hence no conclusion on this matter is possible. It is of importance that these data should be given in all future work, if only because their results may throw light on the origin of the differences between human races as regards blood group membership. The chimpanzee, of which 99 have already been grouped, seems to be much the most hopeful animal for this purpose. It is the object of this note to direct the attention of workers in this field to so important a desideratum.

J. B. S. HALDANE.

University College,
Gower Street,
London, W.C.1.
Oct. 28.

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Blood Groups of Anthropoids

CANDELA¹ has collected previous data on the blood grouping of 137 anthropoids, and added 11 more of his own, based on urine tests. 99 of the animals are chimpanzees, in which only groups O and A have so far been found. In the orang, gorilla, and several gibbon species all members belong to groups A, B

Function of Nicotinic Acid in the Metabolism of the Colon-Typhoid Group of Bacteria

WE have already¹ presented data indicating that nicotinic acid does not act as a specific 'growth factor' in the limited sense, but as a part of an activator of glucose fermentation. In the semi-synthetic medium used, growth of *S. paratyphi* A. and *Shigella dysenteriae* Shiga occurred in the absence of nicotinic acid; however, when glucose was added to this medium, active fermentation took place only