major movement being from a region of high concentration to a region of low concentration of the thing diffusing.

Such a definition will apply to all cases of the phenomenon, no matter how complicated. It is easily applied and avoids the misconceptions introduced by the use of inexact terms.

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A NOTE ON THE PREPARATION OF BIOLOGICAL SPECIMENS BY FILTRATION OF PARAFFIN

IT is only recently that the writer has seen and read No. 233 of the *American Museum Novitates*. This contains an article written by Dr. G. K. Noble and M. E. Jaeckle and entitled "Mounting by Paraffin Infiltration." Naturally I am interested in learning how these authors received the first suggestions of the possibilities of the method and how they have, with diligence and ingenuity, brought it to a high stage of efficiency.

A special reason for my interest in the matter arises from the fact that I may regard myself as the original inventor of the process. In Volume XIX of the *American Naturalist*, issued May, 1885, on page 526, I detailed the manner in which I filled all the tissues of various small animals with paraffin. Among these were small turtles, fishes, lizards, salamanders, mussels and earthworms. Noble and Jaeckle employ some media which were not at my command, but the result to be attained is the same. I congratulate them on their success.

It appears to the writer that economy of time might be effected, especially in the case of the larger specimens, by more use of injections of the hardening and clearing fluids into the body cavities, perhaps also into the alimentary tract, that seat of rapid putrefaction, and even into the blood-vessels. Certainly freshly-killed animals of moderate or large size will in warm weather begin to decay and become bloated by gases before the preserving formalin or alcohol can penetrate the skin and muscles.

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SCIENTIFIC BOOKS

Alcohol and Longevity. By RAYMOND PEARL. Knopf, New York, 1926, pp. xii + 273.

NOT only Professor Pearl's "Friends of the Saturday Night Club" to whom he dedicates this work, but his other friends and indeed the whole alcohol-interested public will find matter of great importance in this volume. It records a unique investigation in human life statistics and makes the results clear, even for the non-scientific reader. Doubtless many careful readers, who are students of the problem, will be surprised at Professor Pearl's finding on page 226:

> "In a fairly large and homogeneous sample of the working population of Baltimore the moderate drinking of alcoholic beverages did not shorten life. On the contrary moderate steady drinkers exhibited somewhat lower rates of mortality, and greater expectation of life than did abstainers."

The problem of the effect of alcohol on the duration of human life is inherently such that we must turn to large groups for our observations and "to the mathematics of large numbers, to the theory of mass phenomena, to interpret safely our observations." Few if any scientific workers to-day doubt the metabolism results of Atwater and Benedict in reference to the utilization of alcohol in the human body. These results have recently been further extended by Carpenter[1] at the Nutrition Laboratory, who has administered alcohol in the form of rectal enemata and finds the same promptness of oxidation as his predecessors. In the well-known study by Dodge and Benedict on the psychological effects of single doses of alcohol it is pointed out that taken the world over there are very many people who "regularly obtain a somewhat larger proportion of their total energy requirement (calories) from alcohol than from protein." Moreover, it is generally agreed now that alcohol is not a stimulant but a depressant. The results of many studies, including those by Dodge and Benedict and more recent ones by the reviewer, have shown that even small or moderate single ingestions of dilute alcoholic beverages tend to slow up and disarrange reflex and voluntary functions particularly at the time when the alcohol in the blood is on the increase. From these results it appears that we have in alcohol an environmental factor which the body can handle at least in moderate quantities, a contribution to nutrition that needs no digestion, that can to some extent replace other food, but that has a characteristic effect on the central nervous system. As a rule, people take alcohol not so much for its calories as for its colorful relaxing influence on mental life. But it is recognized as

[1] Carpenter, Thorne M., "Human Metabolism with Enemata of Alcohol, Dextrose, and Levulose." Carnegie Institution of Washington, Washington, 1925, Pub. No. 369.