to regulate the site of industrial plants is as great a menace to the city as the uncontrolled destruction of forest and farm lands, in the Middle West. The dust storms making large tracts uninhabitable may be equalled by the city fogs and pollution making cities undesirable for living purposes.

City planning is important for the prevention of sinusitis. The use of medication to shrink nasal membranes, engorged by unhealthy atmospheric conditions, is—in many instances—a short-sighted approach to the problem.

City planning must regulate the location and number of smoke-stacks per square mile and the volume of gases expelled. Large industrial smoke-stacks and incinerators must be placed well outside of the city limits. The unnecessary burning of city garbage should be replaced by the more scientific method of bacterial decomposition and conversion to fertilizer. The creation of a fixed ratio of park area for each industrial zone would mitigate the present unhealthy status. The daily examination of all city zones to determine air purity and its regulation should be conducted along lines similar to milk contamination inspection. Controlling the number of gasoline consuming automobiles and encouraging the use of electric automotive trucks and buses would materially aid in restricting air pollution. Thus upper respiratory diseases, particularly sinusitis, is a problem of city planning as well as nasal medication.

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SEXUAL DIMORPHISM OF HYMENOPTEROUS EGGS AND LARVAE

RECENT studies on the biology of *Coccophagus lycimnia*, a parasite of lecaniine scales, have shown that the form of the eggs that develop into males differs in shape from those that develop into females. The differentiation occurs during oviposition.

The female egg is of the usual type. It is elongate, slightly arcuate and floats freely in the body fluids of the host. The male egg, on the other hand, is ovate with a pedicel at one end. It is fastened firmly to the external surface of the host by means of the pedicel which is embedded in the host's tissues. The embryo develops with its cephalic extremity towards the pedicel. The male egg is sometimes deposited free in the space surrounding the host.

This phenomenon is known to occur in another species of *Coccophagus*. It may also occur in a species of *Tetrastichus* parasitic on the eggs of *Malacosoma americanum*. L. T. Williams reported in *Psyche* (vol. 23, page 153) that *Tetrastichus* frequently deposited stalked eggs on the wall of a test-tube.

In the first and second larval instars many species of *Coccophagus* and related genera exhibit striking sexually dimorphic characters. *Coccophagus lycimnia* females lack spiracles when in the first and second instars. *C. lycimnia* males possess four pairs of spiracles in the first instar and six pairs or more in the second instar. When in the first instar the male larva of *Coccophagus capensis* is hairy in appearance and the female larva is smooth. The male larva of *Coccophagus gurneyi* is a planidium covered with chitinous plates and possessing ambulatory spines and two pairs of spiracles. None of these structures occur in the female.

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COLOR BLINDNESS IN TURKEY

WITH the cooperation of a graduate student, Olive W. Evans, we are able to give some data on the incidence of color blindness among Turkish children in the schools of Istanbul, Turkey. By means of the Ishihara Color Blindness Test 384 children were tested in the grades from kindergarten to the seventh, and 306 students in Robert College, making in all 690 tested. Of these, 473 were males and 217 females, and all were Turks. The results are offered in the following tabulation:

	No. Turks tested	No. color blind	Per cent.
Males	473	24	5.3
Females	217	0	0.0

Each eye was tested at a time and there was no case of monocular color blindness. The twenty-four color blind males were red-green blind.

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SCIENTIFIC BOOKS

A SURVEY OF FEELING AND EMOTION

Psychology of Feeling and Emotion. By CHRISTIAN A. RUCKMICK. McGraw Hill Book Company, N. Y. 515 pp. 1936.

IT is a longer distance in treatment than even in time between this survey of Professor Ruckmick's and Ribot's "Psychology of the Emotions" of forty years ago; and there has been nothing as comprehensive since. The march of time and the march of ideas do not always proceed apace. Within these four decades, there have been decisive shifts of fronts all along the line of psychological advance, and notably, though by

no means as radically as logic demands, in the critical analysis of the affective life. Affect is the generic name for the total aspect of the stream of feeling, no less basic—for it is more so—than the "stream of thought," which was James's inclusive name for the thinking phase in the total psychic activity.

Though the term "affect" is as old as Spinoza, a pioneer in the field, the contour of the term in present usage is set by the modern outlook. A prime service of Professor Ruckmick's survey is that of a repository of what psychology—which means a procession of psychologists—"has to say" about feelings and emotions; it serves the purpose adequately; the historical chapter is done with clarity and perspective. The volume assumes a standard place of the period of 1936. Whether all that has been said about emotion was worth saying or including is another matter; this comment defines the second aim of the project, which is to set the topic in order under a critical view and review of the successive contributions.

In this respect its merits are many; the experimental contributions are well portrayed; and that has been the busiest camp. There is, however, far more ensemble than there is perspective. The critical judgment turns upon what figures in the vast literature as the theory of emotion. The book is designed "to follow no particular point of view," which implied merit—especially if one substitutes the word "consistent"—is a weakness, the same lack that accounts for the inadequacy of many of the treatises and presentations that make the reading of contributions to "emotional" literature a trial of the logical flesh. The award of boredom goes to the academic chapters on classification, which led James to say that he would "as lief read verbal descriptions of the shapes of the rocks on a New Hampshire farm as toil through them again." It is not the inconsequence alone, but the confusion and false approaching that burdens the topic; this led Max Meyer to call the theory of the emotions "that whale among the fishes," in that it has "a twofold distinction: first, when seen from a distance, it looms large among them; and second, on close examination, it is found to be no fish at all." He might have added that when it comes up for air, it spouts and blows, thus attracting the harpoons of critics.

To irrelevance and confusion may be added neglect of basic considerations through over-attention to the intellectualist interests, again under an unfortunate tradition—that of an introspective and later a statistical scholasticism. Ruckmick would have done well to include Bentley's story, that when he asked Titchener why he devoted so much attention to the James-Lange theory, Titchener replied, "Well! I have to have something to put into that chapter!" And now it is as crowded as Noah's ark, with about as heterogeneous a cargo, even to the pairing of instincts and emotions, which MacDougall regarded as a triumph of ingenious discovery, when it is either so elementary as to be obvious or so artificial as to be meaningless, apart from the fact that for the most part it does not apply.

The binomial James-Lange contribution, here blossoming into a trinity—the "James-Lange-Sergi theory"—is a case in point on all counts; for it is not a theory of emotion at all, but a specific interpretation of one relation among the components—that between feeling and its expression—and was conclusively proven erroneous by the experimental evidence of Cannon and others, accumulated since that torrent of watery controversy spouted. That three psychologists independently fathered the same error is "some" coincidence, but intelligible since they were all polyandrously wedded to the same siren of abstraction—insisting upon positing an essence behind the integration; James was least so, for he usually had one foot on naturalistic ground, and limped on occasion, as Homer nodded. And still all writers add a brick or a façade to the accumulation of controversies about the thesis that we are amused in mind because we rollick with our diaphragms or are frightened because we find our hearts in our mouths or our legs scampering. It was in its day a plum in an otherwise scanty pudding, but has slight part in to-day's recipe.

There was far worse to come when the Wundtian myopic glasses were focused on the "dimensions" and "qualities" and other quiddities of the emotions; and Dewey did not help matters by further dialectic subtlety tempered by his sound educational flair. Darwin introduced an evolutionary note by analyzing the expressional repertory, which, promising venture in the present renaissance, has brought the picture-book interest into the story, mainly centering—again a side-issue—on how well we sophisticated, dramatic-minded movie-goers can read facial miens in laboratory versions.

But there was, as Ruckmick sufficiently points out, a convergence in the volleys of scattered guns: namely, the conviction that fundamentally the entire affective problem was a *naturalistic* one, as I have termed it, and validates a "phylogenetic theory," as Ruckmick prefers to call it. Thus his confession of a fault, which he regarded as a virtue—"no particular point of view"—is not warranted; he, along with all progressive psychologists, stands firmly on the ground that the neural-evolutionary clue is bed-rock for the psychological superstructure. That is why affective psychology has taken significant strides in our century. It came belatedly because of the aforementioned confusion of tongues, and it came half-heart-

edly, because psychologists, including Ruckmick, are still burdened by a double allegiance, the one to acceptance of the present dispensation, the other to a continuance of the older tradition. A good deal of useless and outmoded luggage is still carried in the equipment of affective psychology.

This comment in turn raises another issue, namely, as to the value of this type of omnibus text-book. Teaching psychology has had a deleterious effect upon the psychologist's cerebrational processes. Carried far enough, it leads to giving psychological courses to enable others to give psychological courses to the increasing burden of future generations. This is good for the printers, bad for the forests and worse for psychological progress. To shift the reference, it leads to the further obscuring of the forest by the trees and makes on the student the impression of a collection of fallen leaves. The only salvation is a consistent logical interpretation. The reply of a distinguished scientist may be pertinently cited, when approached by a publisher desirous to conscript him as a text-book writer: that in regard to such an enterprise, his position was that of a conscientious objector. Ruckmick's book would have been a far better one had he not had the classroom so constantly in mind while writing it. The reforming note in pedagogy questions whether the student mind needs a special and synthetic diet, and believes that students—the minority who are studious as well as the majority who are not—thrive on the same nutritious, vitamin-rich food as nourishes the investigative spirit.

As a compendium of the research on emotion, the volume has a definite place. It is particularly strong on the experimental contributions: the internal somatic indications of affect, the psycho-galvanic (electrodermal) response, the technique for "metabolic" registry, for the facial, less so for the other gestural "filming" and for the internal psychic accompaniments. There are also chapters on pathological emotion, on emotion in the child and in animals—all compiled in the same interest. Nor do these chapters wholly lack the integration which is essential to their interpretation; but it is not carried as far as is desirable, nor organized as critically—to risk the odium of comparison—as is Boring's work for experimental psychology, and Gardner Murphy's for historical psychology. Perspective, guide-maps, critical interpretation—not summaries à la diaries—are as desirable for the professional reader as indispensable for the student. The devotion that spends years of labor upon a project should utilize the experience to the full; and the fruition of it all is in the mastery of its significance as one comprehensive problem.

The consummating privileges of the affective life, and the difficulties of its adequate presentation, lie in its vast scope; rooted in the elemental responses of neural protoplasm, it reaches to the maturation and ideation of human lives, the direction of future generations and the policies of nations. The story of affect comprises two great divisions: that of its foundations and that of its career under the expanding forces of culture—all psychological at root. Dr. Ruckmick's contribution is to the fundamentals mainly; the implications are indicated, but not carried through on a comparable scale. The first division lends itself to the techniques of science; the latter requires a different flair. It approaches a clinical view of humanity; which condition explains why Freud as psychoanalyst became an affectologist—too exclusively, an erotologist.

This dominant human interest likewise partly explains why the studies of affect ran to diffusion and confusion: they started too high up. As men are humans primarily and psychologists by secondary intent and training (or misfortune), they apperceived affect from a conning tower, not closely face to face with humble realities. That perspective has now been restored under the evolutionary principle, which recognizes in the present the active presence of the past, in the higher the surviving activity of the lower. The emotions remain a grand empire of human contemplation, a continuous epic of the human struggle to live by and yet beyond organic heredity. The super-psychologist, if ever he arrives, will come by the route of mastery of the vicissitudes of the affective life. The mystery of affect remains no less impressive than the mystery of intelligence.

JOSEPH JASTROW

SPECIAL ARTICLES

ENVIRONMENTAL CONDITIONS AND THE WASTING DISEASE OF EEL-GRASS

THE almost total disappearance of "eel-grass" (*Zostera marina*) from Atlantic waters during the years 1930–1932 may never be satisfactorily explained. In fact, some of the ablest biologists of my acquaintance already are relegating to the category of "things we shall never know" the cause of the recent scarcity of this native plant throughout its range along the coasts of both North America and Europe. The obscurity surrounding what many of us regard as the most interesting biological phenomenon of recent years makes it seem worth while to record for future reference any fragments of information which may be gathered or even any relevant suggestions as to possible causes.