



# Science News-Letter

*The Weekly Summary of Current Science*

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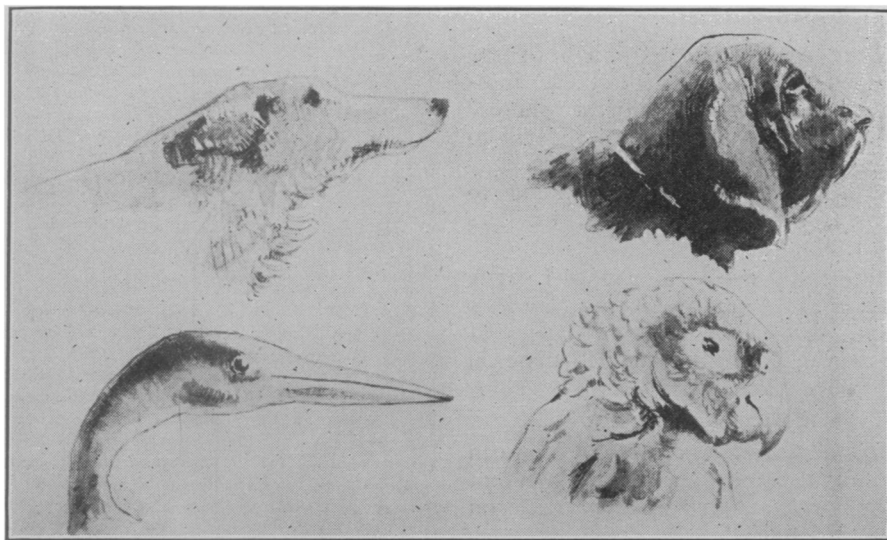
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ZOOLOGY

## Animal World Has Mutts and Jeffs



AN ASTHENIC AND A PYCNIC from dogdom along with the lanceolate heron and well rounded parrot show the divergence of types among animals.

By MARJORIE MACDILL

This is the age of the flat. In the string bean era of the present there is no place for the merely fat. Every pendulum, however, sways nearly as far backward as it swings forward, and the pendulum of style is no exception, as a cursory inspection of back files of fashion plates or an afternoon's ramble in an art gallery amply testify.

While they are waiting for the backward swing that will bring into vogue again the billowy curves beloved of the caliphs, as sung in Burton's version of the Arabian Nights, the would-be flat fat ones may get a modicum of consolation from a peek into the realm of biology. Here they can take consolation with a whole host of bugs, beasts and fishes cast by Nature during an opulent mood and commiserate with ladybugs too round to wear their polka-dots becomingly. For the foxy old dame has molded just about as many of her creatures on the lavish curves of Falstaff as she has into the stream-

line proportions of the agile Hermes. Or else the thick and thin survive in pretty equal proportions according to the processes of selective evolution, whichever way you want to look at it, depending on whether you are a fundamentalist or a physiologist.

The pigeon-holing proclivities of science know no end. That fascinating pastime of classifying their fellow creatures into types, that rightfully belongs to the anthropologists, has in recent years spilled over into the fields of medicine and zoology and even entomology. As a result we hear much learned parlance about "round" dogs, "flat" fishes, "pycnic" beetles, "asthenic" birds, "digestive," "respiratory," "mesomorphic" types of mere men.

Type classification is not new in medicine. As far back as the time of Hippocrates, the father of the art, medicos liked to divide their patients up into the thick and the thin, the tall and the stout. Centuries before any dignified wearer of

the professional spinach ever dreamed of the existence of a germ, physicians recognized the fact that fat patients fell easy victims to certain diseases to which scrawny ones were comparatively resistant, and vice versa. When the germ theory of disease became an established fact, however, the whole medical clan went baying down the track of bacteria and sub-microscopic viruses, and type diagnosis fell into disrepute and stayed there for many years. But now, augmented by many new findings of modern science, it has come to occupy a place of increasing prestige in the medical scheme of things.

### Pycnics and Asthenics

The stylish stout and the modish thin are denoted in the nomenclature of a famous German savant, whose system of classification has received much acclaim among many sorts of scientists, as "pycnics" and "asthenics." Dr. William Morton Wheeler, professor of entomology at the Bussey Institution for Applied Science at Harvard University, describes these types in the *Quarterly Review of Biology*, as follows:

"The asthenic is pale, scrawny, long-limbed, with narrow head and face ('hatchet-faced') long, narrow, straight nose, small, often receding chin, narrow chest and abdomen, deficient development of fat and musculature, reduced pilosity on the body but often with abundant cranial thatch, abstemious, dyspeptic, with a tendency to tuberculosis, and when insane, schizophrenic, i. e., prone to fixed ideas, ideas of persecution, etc. This type is active, intense, intellectual, self-centered (introverted), often deficient in a sense of humor, fond of reforming, dogmatic or fanatical, and not infrequently detestable when claiming a too intimate knowledge of the Almighty's plans for making the world safe for democracy.

(Just turn the page)

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### Animal Types

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The pycnic—so called, not because he likes picnics, though no other type is so fond of them—but from a Greek word meaning compact or thickest—is rubicund, rotund, large-bodied, short-limbed, broad through the chest, but broader through the abdomen, with round or pentagonal face, pug or thick nose, moderately pilose, fond of eating and drinking, eupeptic, with a tendency to apoplexy and arterio-sclerosis; on the mental side cyclothymic, i. e., predisposed to the recurring, circular or manic depressive forms of insanity, such as melancholia; extroverted, socially easy-going, tolerant in morals and religion and often very lovable because claiming no inside information in regard to the Almighty's designs.

"These two types in their purity are sufficiently frequent among our American population. The popular distrust of the asthenic and fondness for the pycnic is indicated by the fact that Satan, or Mephistopheles, is usually represented as an asthenic while the favorite gods and saints of China and Japan are depicted as fat as pycnics. When the belief in Satan was more vigorous than it is at present, he and his demons were often represented as belonging to the asthenic type. Why the people should have chosen a symbol like Uncle Sam to represent the United States and one like John Bull to represent England was not altogether clear till the passage of the Volstead Act. Among historical figures the reader will recall Cassius (as depicted by Shakespeare), Dante, Savonarola, Torquemada and John Calvin as asthenics and Falstaff (as conceived by Shakespeare), Martin Luther and ex-President Taft as pycnics. In fiction Don Quixote and Sancho Panza are good examples of the two types. Bud Fisher's creation of Mutt and Jeff may also be cited in

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### News-Letter Features

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PROMINENT EXAMPLES of the "flat" and the "round" types.

### Animal Types

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this connection. Undoubtedly the endocrine glands, and especially the thyroid, pituitary and interstitial glands, are concerned in the production of both the extreme and intermediate types."

The pycnics and the asthenics may be considered as standing at the extreme ends, so to speak, of the scale of classification. In between is a huge group of intermediates that partake in a measure of the characteristics of both. Among the several subdivisions of this group the muscular types have been designated as athletic. He-man high spots of this category are so widely advertised in the sporting pages and the movies that further elucidation would be superfluous.

### Stout and Slender Animals

Human pycnics can find their prototypes throughout the whole animal and vegetable kingdom. In dogdom there are bulldog, mastiff and Prince Charles pycnics and many an elon-

gated asthenic among the greyhounds, wolfhounds and whippets. With birds there are the rounded parrots and finches on one hand and lanceolate cranes, herons and flamingoes on the other. Among animals in general, the giraffe and the armadillo furnish striking examples of the linear and the curved. The snake and the tortoise, the eel and the carp, and the vines and the melon cacti carry out the contrast

among reptiles and fishes and over into the plant family.

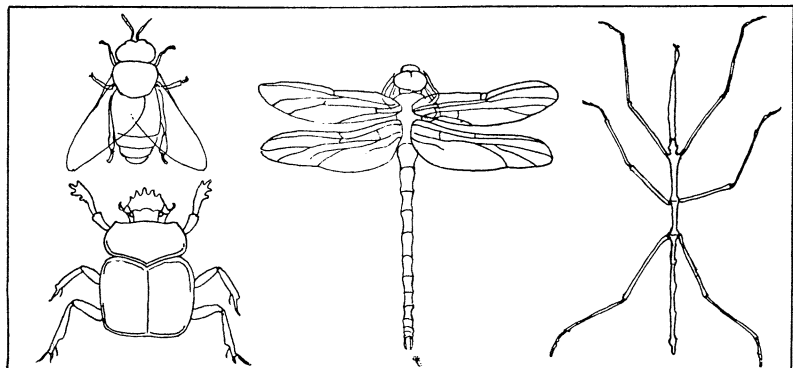
Insects, being most lavishly represented on this terrestrial sphere, furnish particularly plentiful examples of Mutts and Jeffs, Prof. Wheeler points out. Chunky, round pycnic beetles, moths, bugs and caterpillars abound, while thousands of tenuous grasshoppers, mosquitoes and walking-sticks can be met with on any summer day. In the insect world as among humans, however, the intermediate types are numerous, and, adds Prof. Wheeler, "if I designate this group as athletic, the economic entomologists who spend their lives ardently and often unsuccessfully wrestling with them will certainly not object."

### Dwarfs and Giants

Prof. Wheeler also calls attention to the exceptional types among insects such as giants and dwarfs. The soldier ants of certain species are in many respects analogous to the grotesque giants of the human species while the small workers might be called ant Tom Thumbs. The development of these forms evidently depends on both genetic and endocrine glandular factors but the proportional intervention and interrelation of these factors have not been established.

"Owing to lack of knowledge," he says, "of the precise functions of the various glands which in insects might be regarded as analogous to the endocrine glands of vertebrates, we are unable to frame any satisfactory physiological explanation of the Hexapod dwarfs. If certain ants have really learned to produce achondroplastics and ateleotics (malformed dwarfs and types of arrested development) ad libitum and to turn over to them the main asexual activities of the colony, we should have another fine example of

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CONTRAST THE CURVING CONTOURS of this chunky bee and beetle with the sylph-like grace of the dragon fly and walking stick.

## Animal Types

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the extraordinary ability of insects to exploit to the utmost everything in their environment. As yet man has learned to employ his achondroplastics, ateleotics and other dysplastics only as court pets, court jesters and circus freaks."

### Skinny Children Need Play

Recent investigations have demonstrated that certain physical types tend to go with certain types of personality and certain abnormal mental conditions. Asthenic children, according to some psychiatrists, should be given special opportunities for outdoor life and athletics, in order to safeguard them from developing shut-in personalities. The slender types are apt to be quiet, reflective people who fail to express their emotions and ideas in action. The stocky, sturdily built individual is more likely to express himself easily in action and more likely to be normally interested in other people and affairs about him. Pycnic children are apt to be sufficiently interested in sports and other social activities without any urging, but children of the pronounced long, lean type need to be encouraged to develop what social traits they have, psychologists say.

### Anthropologists' Types

Another favored system of classification by which anthropologists like to pigeon-hole the rest of us mortals has four major types, called respectively muscular, respiratory, digestive and cerebral. This latter type takes its name from the fact that the cerebrum, that part of the brain that controls the mind, is likely to be large and well developed while the cerebellum, which controls the motor activities and the muscles, is small and poorly developed. According to Prof. R. Bennett Bean, of the University of Virginia, cerebrals may be either small and slender or short and stocky. They are the product of civilization and are thought to have first developed around the shores of the Mediterranean. Many of the greatest minds the world has known have been cerebrals of the small slender type. Witness Napoleon Bonaparte with his vision of world empire, Thomas Jefferson with his concept of a too-idealized democracy, and Alexander Hamilton, the financial genius who made substantial contributions to putting our infant republic on its feet.

Environment is an important fac-

tor in producing this type, says Prof. Bean. Children with good intellectual heritage brought up in city apartments where there is little opportunity for play and where books are the chief source of amusement, are likely to develop into this type.

### Tall, Muscular and Fat

The respiratory is the tallest of the types and is marked by outstanding physical and mental activity and endurance. This type is believed to have gone through numerous prehistoric migrations from the plateaus of Asia over Europe, down into Mesopotamia and Egypt and the interior of Africa and even into North America. The tall chiefs of the American Indians were respiratories and so are many of the tall Negro races of East Africa. Strenuous nomadic life in the high altitudes is thought to have developed the lungs and respiratory passages. People of this type do not bear confinement well and fall an easy prey to tuberculosis. The great open spaces is the place where they really belong. Both the Father of his Country and Abraham Lincoln are choice specimens of this type that have evolved along mental lines. Both were sound, hardy individuals, men of vision backed up with thorough reasoning power and great strength of character. The women painted by Raphael and Leonardo da Vinci are also ascribed to this class by Prof. Bean.

People of the muscular type may be either long or short. The tall muscularities have short arms but long well developed legs useful in running, horseback riding and mountain climbing. The short ones are usually more heavily built with prominent muscular development more generally distributed. Venus of Milo fits into the feminine side of this category rather than into the idealized flat flapper type so striven for today.

The most conspicuous examples of the digestive type are short with the tendency to obesity that results in multiple chins and helps keep the corset manufactures going in these unregenerate days. This type is believed to have originated after animals were domesticated and man went in for agriculture. In the sections where farming pays and people "live well," the digestive abounds. It is more variable than the other types and depends on the inherent form of the individual and conditions during development. The round Dutch burghers beloved of Hals-

and Maes are fine specimens of this category.

### Relation of Type and Disease

All these types are variants from the common or garden variety of man. Pure types of any kind are not numerous while cerebral and digestive seem rarer than the other two. Over-development of any functional system is likely to lead to the deterioration of that particular system under strain. Consequently it is to be expected, say scientists, that cerebrals break down most readily in the brain, the respiratory in the lungs, the muscularity in the motor system and the digestive in the alimentary canal. Psychologists are interested in the mental reactions that they find characteristic of certain physical types, while the disease susceptibility of the different physical types is reopening the way for type diagnosis that has been reclining in the discard for sixty years or so.

At the Constitution Clinic at the Presbyterian Hospital in New York, Dr. George Draper is attempting to sort out some of these relationships between the structure and functions of the body, mental process and immunity and susceptibility in diseases. His results would seem to indicate that there may have been more in the "consumptive build" and "bilious look" and similar gloomy forecasts of Grandmother's day than we once thought. For it is pretty definitely established that human beings of a certain uniformity of structure seem more prone to certain types of diseases than others. The possibilities of the practical application of these facts in the practice of medicine in the future can be little more than guessed at but at present the whole subject of type classification occupies a place of increasing importance.

Science News-Letter, July 16, 1927

Sleds were used before wheels in ancient Egypt.

Copper mirrors, hairpins, vanity cases, and nail files were dug up in a Babylonian palace of Nebuchadnezzar's time.

The platypus, or duckbill of Australia, has very highly developed glands, three of which have not yet been found to exist in man.

Fatter sweet potatoes can be raised if fertilizer containing a comparatively large amount of potash is used, according to recent tests.