DEPARTMENT OF SPECULATIVE PHILOSOPHY.

MR. SPENCER'S SOCIAL ANATOMY.

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The ancient and hackneyed simile comparing social to animal structure, at length assumes scientific form in Herbert Spencer's last volume ("Principles of Sociology"). His comparison is very ingenious. Individuals are the cells of the social structure; although not in physical contact like animal cells, still through language and various influences they become virtually in contact. The earliest social organizations are small and loose groups where each individual retains a large measure of independence; like a cluster of vorticellae or a sponge, where each cell retains its separate life. But with advancing society the organizations grow larger, population like animal tissue grows denser, and the individual like the cell becomes more dependent on the aggregate, as the differentiation of structure and function advances. A savage tribe, like a rhizopod, is homogeneous, each part serving for any kind of work at demand. But with advance society separates into classes, with increasing division of labor, just as rising animal structure shows its increase of organs.

The first differentiation in Mr. Spencer's analysis is between outside and inside. In the animal, outside hardens and assumes organs of defense and attack, while inside becomes stomach and varied alimentary system. So society separates into an outer class of masters, warriors, and rulers for protection, and an inner class of slaves and laborers for procuring and preparing sustenance. Between inside and outside must be another system to distribute the sustenance when prepared. This becomes circulation in the animal and commerce in the state. Finally in the outer layer of

the animal arises a varied nervous system, with organs of sense and will for the regulation of the whole; so in the dominant class in the state arises government with its varied means for obtaining information and executing orders for the regulation of the whole. So in social as in animal structure, Mr. Spencer traces three systems: first, the inner sustaining system, — alimentation in the animal, and productive industries in the state; second, the distributing system, — circulation in the animal and commerce in the state; third, the regulating system, — the nervous structure of the animal and the government in the state.

Mr. Spencer traces the analogies in detail. As the simple alimentary canal becomes divided into organs for mastication, disintegration and the various processes of digestion; so the rude industries of a savage tribe grow diverse in the arts of civilization, with the same method. As for instance, the liver originating in separate bile-secreting cells scattered along the intestine, becomes at length concentrated in a viscus with direct and ramifying branches; so an industry commencing with separate workmen scattered through the community, gradually becomes concentrated in factories and a great manufacturing center.

The distributing system shows still more remarkable parallels. Commerce commences with shifting paths through forests and prairies, like the unwalled and changing lacunæ in animal tissue. But with advance the paths grow straight, and fixed in fenced roads, like the walled blood vessels; and culminate in the double-tracked railroads separating the outgoing and incoming currents, — the arteries and veins of the social structure. These great channels of distribution in their ever-ramifying divisons grow smaller in roads and lanes, and end in unfenced cart-tracks across the fields, — the capillaries of commerce. As circulation commences in the lower animals feeble and irregular, but culminates in the steady pulse of the mammal; so commerce commences in feeble barter, and rising through the irregular fair, comes at last to the steady pulse of the daily market. Here and there a manufacture, like a secreting gland, draws from the current the crude material, which it works over into more refined products and then returns to the circulation. So in the animal and social economy alike, the sustenance is carried where needed.

The regulating system shows a like parallel in details. The lowest tribes are nearly without government, as the lowest animals without nerves. Then comes the rude chief, like a simple ganglion. Then comes the union of tribes, with one and its chief raised to a kind of leadership, like the lower articulate with segments partially subordinate to the head. Then comes monarchy, with its king controlling all subordinate rulers and members, like a vertebrate with its nervous system fully centered in the brain. But, as in the rising nervous structure, cerebrum and cerebellum, the deliberative centers, imperceptibly arising, come to overshadow and control the sensory centers; so in the state, deliberative assemblies, imperceptibly arising, come to overshadow and control the personal will of the monarch, and government becomes constitutional instead of autocratic, reasonable instead of impulsive and passionate. Finally, as in the animal, the internal functions are regulated by the sympathetic and vaso-motor systems acting automatically; so the internal functions of the state, its industry and commerce, come to be self-regulating, and need no interference from the government.

These comparisons, doubtless, seem fanciful to many. But if life is one, as we are learning, then such resemblances are natural. Of course such parallelisms must not be pressed to details of structure; but in functions, they are not only natural but necessary. Society, like any other living thing, must have its sustenance and distribution, and its organs for these functions; and Mr. Spencer's analysis seems in general not only ingenious but true.

But, on a few points, Mr. Spencer seems open to criticism. The animal digestive system seems to correspond not to all the productive industries of the state, but only to the manufacturing industries. Digestion, like manufacture, takes the raw materials of nature second-hand and prepares them for use. Hence digestion is only part of the sustaining function. Beyond the secondary process of preparing the sustenance lies the primary process of getting it. Outside the animal digestive system are organs for gathering food for digestion; and outside of manufactures are the various agricultural, mining, lumbering, and other industries, for gathering from nature the material for manufacture. All these processes, of course, belong to the sustaining system. So the sus-

taining system is not all inside, as Mr. Spencer makes it, but partly outside. It is outside before it is inside. The protozoon is sustained by absorption through the surface, before stomach cavity arises; and a savage tribe is sustained by the external industries of fishing and hunting before manufactures arise.

This criticism does not injure the parallel, but helps it. In this external part of the sustaining system, we may also trace the analogies between the animal and social structures. As the sustaining system of the rhizopod is a mere surface folding around the food coming in its way; so the lowest savages merely absorb the uncooked roots, berries and molluscs that chance brings them. But with the beginnings of stomach come cilia to entrap and absorb food, and tentacles to range through the water at random and capture prey; so with the beginning of domestic life and the arts, some men become hunters and fishers, the tentacles of the tribe roving at random to entrap and capture game. With advance in the animal, the external organs become fierce with appendages for fighting; so advancing society produces its warrior class to win sustenance by attack and plunder, — the claws and fangs of the social body, growing more deadly as they become pointed with bronze and steel. But as in the rising animal scale, fierce claws at length give way to supple hands and cunning fingers, gathering a better sustenance; so in the social body, the military class in time give place to the industrial, and what was once the claws of the state become the productive hand of civilization, peacefully gathering from field, forest, earth and sea a far richer sustenance than war can steal.

Again, one is forced to ask why Mr. Spencer has said nothing of the *respiratory* system. Respiration is the function most characteristic of and most essential to animal life. The sustaining and distributing systems of which he says so much are purely vegetative, — belong to a tree as much as to a man. But one of the chief differences separating the animal from the vegetable is respiration. The animal absorbs oxygen, and the higher he is in the scale, the more perfect his organs for absorbing it. In the lowest animal the oxygen is absorbed from the water through the general surface of the body; then through specialized places on

the surface, which in time fold and branch into gills; finally it is absorbed more rapidly from the air through the perfect lung of bird and mammal. Respiration seems the special mark of the rising animal, and comes to be the most important function of all. Eating may be omitted and the sustaining system lie idle for days; but not breathing. Consciousness may be suspended and the regulating system deranged; but the respiration must go on. From respiration, too, come the warmth and energy of higher life. The contrast between the torpid reptile and the frigate bird which, as Michelet says, "takes his breakfast on the Senegal and dines in America," comes largely from the contrast in breathing powers. Even that higher life we call spiritual is as closely linked with the breath as its name implies. Foul air dulls and fresh air quickens the thought. Even moral excellence seems somewhat dependent on good breath. "Let everything that hath breath praise the Lord," says the Psalmist, and probably nothing else will. The old fabulists were wise to figure Satan as a dragon, —a poor-lunged creature, perhaps one of the extinct gilled halisaurians. High life comes with breathing. To the sustaining and distributing systems of the vegetable, must be added a respiratory to make the animal; and it seems strange that Mr. Spencer should have omitted this from his parallel.

We may not be able to trace the social gills and lungs or any details of the respiratory structure, but the respiratory function is plain in society. Respiration means consumption. Breathing is burning, and the different methods are only so many ways of keeping the fire. Gills furnish a poor draft; perfect lungs show pipes, chimney, and heaving bellows at the bottom, and keep the animal well burnt out. Stomach and lungs balance each other. Stomach feeds and lungs eat; stomach accumulates and lungs consume. The tree gathers and keeps, and so grows bigger every year; the animal gathers and spends itself, turns its fiber into force, warmth and action, and so after a little does not grow bigger, but grows better, ever burning out the old and keeping itself renewed. Respiration means consumption of old tissue.

Society shows this process,— not the mere consumption of which the political economist speak, but the deeper consumption of the

social tissue itself. Men whose work is done are removed like worn-out cells from the body. As even the older and solider framework of the body is slowly removed, and our very bones change; so even the older and more fundamental institutions are slowly consumed and renovated in a healthy state that breathes and lives. As this process of consumption works in nerve and brain more rapidly than anywhere else; so in a healthy society, thought and opinion show still more rapid change, as old errors are abandoned and new knowledge gained. This respiration in society as in the animal, brings higher life by removing the effete and poisonous elements from our institutions. Buckle said the best work of legislators had been in undoing the work of their predecessors. Advancing knowledge and thought do, indeed, eat away old opinions as oxygen consumes the brain, but like that, for good. No need to restrict thought. There may, indeed, be social stages to which knowledge is fatal, as free air is to fish. But we need not on that account restrict thought, any more than we enact laws to keep fish in the water. Few men are too eager to come out into the higher air, and whoever will, let him. Some think this is the way lungs have come. It is safe for society to absorb its gills and develop lungs as fast as it will. Knowledge and thought do indeed, like oxygen, burn out old errors; but like that, respect life, and harm nothing good. In state and body alike the organism's own vitality is ever renewing the wasted tissue, and giving us better than we lost. The respiration which consumes is yet the breath of life.

With all these parallels between the animal and social structure, we should note one contrast, to which Mr. Spencer refers. Consciousness does not become centralized in the state. There is no social sensorium. In the social body, unlike the animal, consciousness is retained in each individual cell. So much does individualization seem to be one of the ends of nature. Constituting one body, we yet remain separate persons. Growing ever more organized in one social structure, we become ever more personal too. These two processes go on side by side, — the organization of the whole and the perfection of the parts.