such as sight and hearing. "The great column of being," says Hugh Miller, "with its base set in the sea, and inscribed, like some old triumphal pillar, and with many a strange form at once hieroglyphic and figurative, bears—as the ornately sculptured capital, which imparts beauty and finish to the *whole*—reasoning, responsible man.

There is surely a very wonderful harmony manifested in the proportions of that nice sequence, in which the invertebrates, the fishes, the reptiles, marsupials, the placental mammals, and, last of all, man himself, are so exquisitely arranged. Of one of our domestic tribes no trace has yet been found in the rocks. Like the cod family among fishes, or the roseaceæ among plants, it seems to have preceeded man by but a very brief period. I refer to the sheep—that clothes civilized man everywhere, in the colder latitudes, with its fleece—that feeds him with its flesh—that gives its bowels to be spun into the catgut with which he refits his musical instruments, and whose skin converted into parchment, served to convey to later times the thinking of the first blow of the human intellect across the dreary gulf of the middle ages." "Vegetation inconceivably exceeding in vastness all that we now know," says Arnott, "grew and faded alternately upon this globe during many ages, while they were apparently useless in creation. It was allowed to run waste, because it was waste that the Omniscient Operator wanted as the raw material of the manufacture which he had in hand. Soft, deep, damp soils and hot steaming skies brought forth herbs and trees with a luxurince that baffles our imagination, now that it has passed away from the senses. These were deposited in layers along broad valleys, covered over, hot-pressed, and caked into coal, that it might keep till it should be required as fuel for the *coming man*. When the fuel was stratifying and crystalizing and caking, man was designed and promised; the coal measures promised him. For men these stores were provided, because he only can use them: no species of animal except the human has sufficient skill to light a fire." The gorilla, whose company has been so much sought after by the philosopher and the multitude, likes well enough to warm himself by the negro's fire; but, with all his vaunted sagacity, he skulks away from its dying embers, for he knows not how to add "fuel to the fire." Well it is so. Otherwise, what terrible destruction might be brought about! If any be disposed to doubt the practical issue of this part of our inquiry, taking man as the *great central figure* of our theme, let him conceive, if he can, the fatal paralysis which would seize upon the world, driving back the tide of its advancing civilization, and especially would it be disastrous to England, with her manufactures, her commerce, and her agriculture—if these two elements of power, coal and iron, were blotted out of the stony book of creation. Then would she look in vain for them in their most wonderful combination—the *steam engine*. Millions men and horses would utterly fail to undertake giant's daily task; millions of acres of valua land must be *misapplied* to their maintenan The remains of a vast and extinct vegetation made a substitute for the labour of the liv animal, and man, released from the drudgery incessant toil, is better fitted to fulfil his no destiny as an intelligent and morally respons creature. *Agriculture is only just beginning* feel the impulse which she must one day rea through the mighty energy of steam. "The is a ceaseless round of force mutation throug out nature," says the *Cornhill Magazin* "each one generating or changing into the oth So that force which enters the plant as heat light, &c, is stored up in its tissues, making t organic. This force, transferred from the p to the animal in digestion, is given out by muscles in their decomposition, and produ motion, or by its nerves, and constitutes nerv force—force stored up in the body—resistan to chemical affinity; this force proceeds direc from the solar rays." These influences have important bearing upon the feeding of stock the growing of corn, especially in our short s mers, when the climatal influence of light heat are below the average, and so incapable thoroughly ripening the grain. Has the ex luxuriance and weakness of straw, freque observed over a large wheat growing area, s thing to do with the stimulating treatment high farming and special manuring, on the hand? or is it attributable to a constant d of phosphates, and a too monotonous rotati cropping, on the other? or is it (as has b ably suggested) from a constitutional chang the soil, from physical and physiological cause Will *deep stirring* by steam culture prove fa able or otherwise to early ripening? The b tiful harmony that exists between the animal vegetable kingdoms has not a more striking important illustration than is to be seen thro the medium of the atmosphere. Let us Maury's fine descriptive words: "*to him* studies the physical relations of the earth, sea, and the air, the atmosphere is indeed so thing more than a shoreless ocean, at the bot of which he creeps along. It is an envelop covering for the dispersion of light and over the surface of the earth; it is a sewer, which, with every breath we exhale, we off a vast quantity of dead matter; it is a oratory for purification, in which that matt recompounded and wrought again into w some and healthful shapes; it is a machin drawing up all the rivers from the sea, and veying their waters from their fountains, i ocean, to the sources in their mountains; an inexhaustible magazine, marvellously ad for many benign and beneficent purposes. U the proper working of this machine depend well-being of every plant and animal th habits the earth." "It is well known,"