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In Four Volumes

Addison, Joseph

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 N^o 156. *Wednesday, September 9.*

----- *magni formica laboris*

*Ore trahit quodcunque potest, atque addit acervo,
 Quem fruit haud ignara, ac non incauta futuri.
 Quae, simul inversum contristat Aquarius annum,
 Non usquam prorepat, & illis utitur ante
 Quaesitis patiens-----*

Hor.

IN my last *Saturday's* paper I supposed a molehill, inhabited by pismires or ants, to be a lively image of the earth, peopled by human creatures. This supposition will not appear too forced or strained to those who are acquainted with the natural history of these little insects, in order to which I shall present my Reader with the extract of a Letter upon this curious subject, as it was published by the members of the *French* academy, and since translated into *English*. I must confess I was never in my life better entertained than with this narrative, which is of undoubted credit and authority.

“ In a room next to mine, which had been empty for a long time,
 “ there was upon a window a box full of earth, two foot deep, and fit
 “ to keep flowers in. That kind of parterre had been long uncultivated;
 “ and therefore it was covered with old plaister, and a great deal of rub-
 “ bish that fell from the top of the house, and from the walls, which,
 “ together with the earth formerly imbibed with water, made a kind of
 “ a dry and barren soil. That place lying to the *South*, and out of the
 “ reach of the wind and rain, besides the neighbourhood of a granary,
 “ was a most delightful spot of ground for ants; and therefore they had
 “ made three nests there, without doubt for the same reason that men
 “ build cities in fruitful and convenient places, near springs and rivers.

“ Having a mind to cultivate some flowers, I took a view of that
 “ place, and removed a tulip out of the garden into that box; but casting
 “ my eyes upon the ants, continually taken up with a thousand cares,

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“ very

“ very inconsiderable with respect to us, but of the greatest importance
“ for them, they appeared to me more worthy of my curiosity than all
“ the flowers in the world. I quickly removed the tulip, to be the ad-
“ mirer and restorer of that little common-wealth. This was the only
“ thing they wanted ; for their policy, and the order observed among
“ them, are more perfect than those of the wisest republicks : and there-
“ fore they have nothing to fear, unless a new legislator should attempt
“ to change the form of their government.

“ I made it my business to procure them all sorts of conveniences. I
“ took out of the box every thing that might be troublesome to them ;
“ and frequently visited my ants, and studied all their actions. Being used
“ to go to bed very late, I went to see them work in a moon-shiny night ;
“ and I did frequently get up in the night, to take a view of their labours.
“ I always found some going up and down, and very busie : one would
“ think that they never sleep. Every body knows that ants come out of
“ their holes in the day-time, and expose to the sun the corn, which
“ they keep under ground in the night : those who have seen ant-hillocks,
“ have easily perceived those small heaps of corn about their nests. What
“ surprized me at first was, that my ants never brought out their corn,
“ but in the night when the moon did shine, and kept it under ground
“ in the day-time ; which was contrary to what I had seen, and saw still
“ practised by those insects in other places. I quickly found out the rea-
“ son of it : there was a pidgeon-house not far from thence : pidgeons
“ and birds would have eaten their corn, if they had brought it out in
“ the day-time : It is highly probable they knew it by experience ; and I
“ frequently found pidgeons and birds in that place, when I went to it
“ in a morning. I quickly delivered them from those robbers : I frighted
“ the birds away with some pieces of paper tied to the end of a string
“ over the window. As for the pidgeons, I drove them away several
“ times ; and when they perceived that the place was more frequented
“ than before, they never came to it again. What is most admirable,
“ and what I could hardly believe, if I did not know it by experience,
“ is, that those ants knew some days after that they had nothing to fear,
“ and began to lay out their corn in the sun. However, I perceived
“ they were not fully convinced of being out of all danger ; for they
“ durst not bring out their provisions all at once, but by degrees, first in
“ a small quantity, and without any great order, that they might quickly
“ carry them away in case of any misfortune, watching, and looking e-
“ very way. At last, being persuaded that they had nothing to fear,
“ they

“ they brought out all their corn, almost every day, and in good order,
 “ and carried it in at night.

“ There is a strait hole in every ants-nest, about half an inch deep;
 “ and then it goes down sloping into a place where they have their ma-
 “ gazine, which I take to be a different place from that where they rest
 “ and eat. For it is highly improbable that an ant, which is a very clean-
 “ ly insect, and throws out of her nest all the small remains of the corn
 “ on which she feeds, as I have observed a thousand times, would fill up
 “ her magazine, and mix her corn with dirt and ordure.

“ The corn, that is laid up by ants, would shoot under ground, if
 “ those insects did not take care to prevent it. They bite off all the buds
 “ before they lay it up; and therefore the corn that has lain in their
 “ nests will produce nothing. Any one may easily make this experiment,
 “ and even plainly see that there is no bud in their corn. But though
 “ the bud be bitten off, there remains another inconvenience, that corn
 “ must needs swell and rot under ground; and therefore it could be of
 “ no use for the nourishment of ants. Those insects prevent that in-
 “ convenience by their labour and industry, and contrive the matter so,
 “ that corn will keep as dry in their nests as in our granaries.

“ They gather many small particles of dry earth, which they bring
 “ every day out of their holes, and place them round to heat them in
 “ the sun. Every ant brings a small particle of that earth in her pin-
 “ cers, lays it by the hole, and then goes and fetches another. Thus, in
 “ less than a quarter of an hour, one may see a vast number of such small
 “ particles of dry earth, heaped up round the hole. They lay their corn
 “ under ground upon that earth, and cover it with the same. They perform-
 “ ed this work almost every day, during the heat of the sun; and though
 “ the sun went from the window about three or four a clock in the af-
 “ ternoon, they did not remove their corn and their particles of earth,
 “ because the ground was very hot, till the heat was over.

“ If any one should think that those animals should use sand, or small
 “ particles of brick or stone, rather than take so much pains about dry
 “ earth; I answer, that upon such an occasion nothing can be more proper
 “ than earth heated in the sun. Corn does not keep upon sand: besides,
 “ a grain of corn that is cut, being deprived of its bud, would be filled
 “ with small sandy particles that could not easily come out. To which I
 “ add, that sand consists of such small particles, that an ant could not
 “ take them up one after another; and therefore those insects are seldom
 “ to be seen near rivers, or in a very sandy ground.

“ As for the small particles of brick or stone, the least moistness would
“ join them together, and turn them into a kind of mastick, which those
“ insects could not divide. Those particles sticking together, could not
“ come out of any ants-nest, and would spoil its symmetry.

“ When ants have brought out those particles of earth, they bring
“ out their corn after the same manner, and place it round that earth:
“ thus one may see two heaps surrounding their hole, one of dry earth,
“ and the other of corn; and then they fetch out a remainder of dry
“ earth, on which doubtless their corn was laid up.

“ Those insects never go about this work but when the weather is clear,
“ and the sun very hot. I observed, that those little animals having one
“ day brought out their corn at eleven a clock in the forenoon, remo-
“ ved it, against their usual custom, before one in the afternoon: the sun
“ being very hot, and sky very clear, I could perceive no reason for it. But
“ half an hour after the sky began to be overcast, and there fell a small
“ rain, which the ants foresaw; whereas the *Milan* Almanack had fore-
“ told that there would be no rain upon that day.

“ I have said before, that those ants which I did so particularly con-
“ sider, fetched their corn out of a garret. I went very frequently into
“ that garret: There was some old corn in it; and because every grain
“ was not alike, I observed that they chose the best.

“ I know, by several experiments, that those little animals take great
“ care to provide themselves with wheat when they can find it, and al-
“ ways pick out the best; but they can make shift without it. When
“ they can get no wheat they take rye, oats, millet, and even crumbs of
“ bread, but seldom any barley, unless it be in a time of great scarcity,
“ and when nothing else can be had.

“ Being willing to be more particularly informed of their forecast and
“ industry, I put a small heap of wheat in a corner of the room where
“ they kept: and to prevent their fetching corn out of the garret, I shut
“ up the window, and stopt all the holes. Though ants are very know-
“ ing, I do not take them to be conjurers; and therefore they could not
“ guess that I had put some corn in that room. I perceived for several
“ days that they were very much perplexed, and went a great way to
“ fetch their provisions. I was not willing for some time to make them
“ more easie; for I had a mind to know, whether they would at last find
“ out the treasure, and see it at a great distance, and whether smelling
“ enabled them to know what is good for their nourishment. Thus
“ they were some time in great trouble, and took a great deal of pains:
“ they

“ they went up and down a great way looking out for some grains of
 “ corn: they were sometimes disappointed, and sometimes they did not
 “ like their corn after many long and painful excursions. What appear-
 “ ed to me wonderful, was, that none of them came home without
 “ bringing something: one brought a grain of wheat, another a grain of
 “ rye or oats, or a particle of dry earth, if she could get nothing else.

“ The window, upon which those ants had made their settlement,
 “ looked into a garden, and was two stories high. Some went to the
 “ further end of the garden, and others to the fifth story, in quest of
 “ some corn. It was a very hard journey for them, especially when they
 “ came home loaded with a pretty large grain of corn, which must needs
 “ be a heavy burthen for an ant, and as much as she can bear. The
 “ bringing of that grain from the middle of the garden to the nest, took
 “ up four hours; whereby one may judge of the strength, and prodigi-
 “ ous labour of those little animals. It appears from thence, that an ant
 “ works as hard as a man, who should carry a very heavy load on his
 “ shoulders almost every day for the space of four leagues. It is true,
 “ those insects do not take so much pains upon a flat ground; but then
 “ how great is the hardship of a poor ant, when she carries a grain of
 “ corn to the second story, climbing up a wall with her head downwards,
 “ and her backside upwards? None can have a true notion of it, unless
 “ they see those little animals at work in such a situation. The frequent
 “ stops they make in the most convenient places, are a plain indication of
 “ their weariness. Some of them were strangely perplexed, and could
 “ not get to their journey's end. In such a case, the strongest ants, or
 “ those that are not so weary, having carried their corn to their nest,
 “ came down again to help them. Some are so unfortunate as to fall
 “ down with their load, when they are almost come home: when this
 “ happens they seldom lose their corn, but carry it up again.

“ I saw one of the smallest carrying a large grain of wheat with incre-
 “ dible pains: when she came to the box, where the nest was, she made
 “ so much haste that she fell down with her load, after a very laborious
 “ march: such an unlucky accident would have vexed a Philosopher. I
 “ went down, and found her with the same corn in her paws: she was
 “ ready to climb up again. The same misfortune happened to her three
 “ times: sometimes she fell in the middle of her way, and sometimes
 “ higher; but she never let go her hold, and was not discouraged. At
 “ last, her strength failed her: she stopt; and another ant helped her to
 “ carry her load, which was one of the largest and finest grains of wheat
 “ that

“ that an ant can carry. It happens sometimes, that a corn slips out of
 “ their paws, when they are climbing up: they take hold of it again, when
 “ they can find it; otherwise they look for another, or take something
 “ else, being ashamed to return to their nest without bringing something:
 “ this I have experimented, by taking away the grain which they look-
 “ ed for. All those experiments may easily be made by any one that has
 “ patience enough; they do not require so great a patience as that of
 “ Ants: but few people are capable of it.

N^o 157. *Thursday, September 10.*

Go to the ant, thou sluggard; consider her ways, and be wise.
 Solomon.

IT has been observed by writers of morality, that in order to quicken human industry, Providence has so contrived it, that our daily food is not to be procured without much pains and labour. The chase of birds and beasts, the several arts of fishing, with all the different kinds of agriculture, are necessary scenes of business, and give employment to the greatest part of mankind. If we look into the brute creation, we find all its individuals engaged in a painful and laborious way of life, to procure a necessary subsistence for themselves, or those that grow up under them: the preservation of their Being is the whole business of it. An idle man is therefore a kind of monster in the creation. All nature is busy about him; every animal he sees reproaches him. Let such a man, who lies as a burthen or dead weight upon the species, and contributes nothing either to the riches of the Commonwealth, or to the maintenance of himself and family, consider that instinct with which Providence has endowed the ant, and by which is exhibited an example of industry to rational creatures. This is set forth under many surprizing instances in the paper of yesterday, and in the conclusion of that narrative, which is as follows:

“ Thus my Ants were forced to make shift for a livelihood, when I
 “ had shut up the garret, out of which they used to fetch their provi-
 “ ons.