ſubject, ought to know, that many of them are not ſufficiently aſcertained; and that perhaps a greater number of them have not been ſufficiently proſecuted, and are, properly ſpeaking, only begun. We mult even acknowledge, that many of thoſe experiments which we have mentioned have not been ſuſſiciently proſecuted.

“The ſecond fundamental propoſition of the theory of ſalts, namely, ‘That the vitriolic acid is com­pounded of only the aqueous and earthy principles, ’

is, like the firſt, ſupported by many facts which give it a degree of probability, but which do not amount to a complete demonſtration. This propoſition may be ſupported by the following conſiderations.

“Firſt, Experience conſtantly ſhows, that the pro­perties of compound bodies are always the reſult of thoſe of the component parts of theſe bodies, or ra­ther they are the properties of theſe component bodies modified by one another.

“Thus, if a body be compoſed of two principles, one of which is fixed and the other volatile, it will have a leſs degree of fixity than the former, and a leſs vola­tility than the latter. If it be compoſed of two prin­ciples, one of which is ſpecifically heavier than the other, its ſpecific gravity will be greater than that of one of them, and leſs than that of the other. The fame obſervation is applicable to all the other eſſential properties, excepting thoſe which deſtroy each other; as, for inſtance, the tendency to combination, or the diſſolving power; for theſe latter properties are weak­ened ſo much more in the compounds as their prin­ciples are more ſtrongly united, and in more juſt pro­portion.

“We obſerve, nevertheleſs, that the properties of compound bodies are not always exactly intermediate betwixt the properties of the component bodies; for, to produce this mean, the quantities of each of the component parts muſt be equal, which is the caſe in few or no compounds.

“Beſides, ſome particular circumſtances in the manner in which the principles unite with one another, contribute more or leſs to alter the reſult of the com­bined properties: for inſtance, experience ſhows, that when ſeveral bodies, particularly metals, are united together, the ſpecific gravities of which are well known, the allay formed by ſuch union has not the preciſe ſpecific gravity which ought to reſult from the proportion of the allayed ſubſtances; but that in ſome allays it is greater and in others leſs. But we are certain, on the other fide, that theſe differences are too inconſiderable to prevent our diſtinguiſhing the properties of the principles in the compounds which they form, eſpecially when they have very different properties.

“Theſe things being premiſed, when we examine well the properties of vitriolic acid, we ſhall eaſily find that they partake of the properties of the aqueous and of the earthy principles.

“Firſt, When this acid is as pure as we can have it, it is like the pureſt water and the pureſt vitrifiable earths, free from colour or ſmell, and perfectly tranſparent.

“Secondly, Although we cannot deprive the vitri­olic acid of all the water ſuperabundant to its ſaline eſſence, and therefore its preciſe ſpecific gravity has not been determined, we know that when it is well

concentrated, it is more than twice as heavy as pure water, and much leſs heavy than any earthy ſubſtance.

“Thirdly, This acid is much leſs fixed than any pure earth, ſince, however well it may be concen­trated, it may always be entirely diſtilled; for which purpoſe a much ſtronger degree of heat is requiſite than for the diſtillation of pure water.

“Fourthly, We do not know the degree of ſolidity of vitriolic acid, or the adheſion of aggregation, which its integrant parts have one to another, becauſe for this purpoſe the vitriolic acid ought to be deprived of all ſuperabundant water: but if we judge of it by the ſolid conſiſtence of this acid when highly concentrated, as we ſee from the vitriolic acid called *glacial,* the in­tegrant parts of this acid ſeem ſuſceptible of a much ſtronger adheſion than thoſe of pure water; but much leſs than thoſe of earth, as we ſee from the inſtance of hard ſtones.

“Fifthly, The union which this acid contracts with water and with earths, ſhows that theſe ſubſtances en­ter into its compoſition; for we know, that in general compounds are diſpoſed to unite ſuperabundantly with the principles which compoſe them. All theſe proper­ties of vitriolic acid, which ſo ſenſibly partake, and much more than any other acid, of the properties of earth and of water, are ſufficient to induce us to believe that it is compoſed of theſe two principles; but it has one very eminent property, which is common with it to neither water nor pure earth, which is, its violent and corroſive taſte. This property is ſufficient to raiſe doubts, if we could not explain it from principles, which ſeem certain and general, relating to the combi­nation of bodies.

“We obſerve, then, concerning the property now in queſtion, that is, of taſte in general, that it can only be conſidered as an irritation made upon the organs of taſte by ſapid bodies; and if we reflect attentively up­on it, we ſhall be convinced, that no ſubſtance that is not impreſſed by ſome impulſe can irritate or agitate our ſenſible organs, but by a peculiar force of its in­tegrant parts, or by their tendency to combination; that is, by their diſſolving power. According to this notion, the taſte of bodies, or the impreſſion made up­on our ſenſible organs by their tendency to combination, or by their diſſolving power, are the ſame property; and we ſee accordingly, that every ſolvent has a taſte, which is ſo much more ſtrong as its diſſolving power is greater; that, thoſe whoſe taſte is ſo violent that it amounts to acrimony, corroſion, and cauſticity, when applied to any other of the ſenſible parts of our body beſides the organs of taſte, excite in them itching and pain.

“This being premiſed, the queſtion is, How earth, in which we perceive no taſte nor diſſolving power, and water, which has but a very weak diſſolving power, and little or no taſte, ſhould form by their combination a ſubſtance, ſuch as the vitriolic acid is, powerfully corroſive and ſolvent?

“To conceive this, let us conſider, firſt, that every part of matter has a power by which it combines, or tends to combine, with other parts of matter. Second­ly, that this force, the effects of which are perceptible, in chemical operations, only among the very ſmall mo­lecules, or the integrant and conſtituent parts of bodies, ſeems proportionable to the denſity or ſpecific gravity of theſe parts. Thirdly, that this ſame force is limited