FRANICS BACON’S PREFACE TO THE *NOVUM ORGANUM* (NEW INSTRUMENT), 1620

*Introduction: Born in London in 1561, Sir Francis Bacon made his living as an attorney and a politician but is best known to history as a philosopher. His greatest contribution—indeed, one of the most important contributions to humanity’s intellectual history—was put forth in his Novum Organum of 1620. Bacon’s “new tool” (that’s what “*novum organum” *means in Latin) was the scientific method—the building up of an argument through inductive reasoning and based on observation and experimentation. No idea has done more to transform the modern world than Bacon’s “new tool.” Note that in Bacon’s day, science was not considered a separate form of inquiry from philosophy, as it is today.*

THEY who have presumed to dogmatize on Nature, as on some well-investigated subject, either from self-conceit or arrogance, and in the professorial style, have inflicted the greatest injury on philosophy and learning. For they have tended to stifle and interrupt inquiry exactly in proportion as they have prevailed in bringing others to their opinion: and their own activity has not counterbalanced the mischief they have occasioned by corrupting and destroying that of others. They again who have entered upon a contrary course, and asserted that nothing whatever can be known, whether they have fallen into this opinion from their hatred of the ancient sophists, or from the hesitation of their minds, or from an exuberance of learning, have certainly adduced reasons for it which are by no means contemptible. They have not, however, derived their opinion from true sources, and, hurried on by their zeal, and some affectation, have certainly exceeded due moderation…

Our method, though difficult in its operation, is easily explained. It consists in determining the degrees of certainty, whilst we, as it were, restore the senses to their former rank, but generally reject that operation of the mind which follows close upon the senses, and open and establish a new and certain course for the mind from the first actual perceptions of the senses themselves. This no doubt was the view taken by those who have assigned so much to logic; showing clearly thereby that they sought some support for the mind, and suspected its natural and spontaneous mode of action. But this is now employed too late as a remedy, when all is clearly lost, and after the mind, by the daily habit and intercourse of life, has become prepossessed with corrupted doctrines, and filled with the vainest idols. The art of logic therefore being (as we have mentioned) too late a precaution, and in no way remedying the matter, has tended more to confirm errors, than to disclose truth. Our only remaining hope and salvation is to begin the whole labor of the mind again; not leaving it to itself, but directing it perpetually from the very first, and attaining our end as it were by mechanical aid. If men, for instance, had attempted mechanical labors with their hands alone, and without the power and aid of instruments, as they have not hesitated to carry on the labors of their understanding with the unaided efforts of their mind, they would have been able to move and overcome but little, though they had exerted their utmost and united powers…

Let there exist then (and may it be of advantage to both) two sources, and two distributions of learning, and in like manner two tribes, and as it were kindred families of contemplators or philosophers, without any hostility or alienation between them; but rather allied and united by mutual assistance. Let there be, in short, one method of cultivating the sciences, and another of discovering them. And as for those who prefer and more readily receive the former, on account of their haste, or from motives arising from their ordinary life, or because they are unable from weakness of mind to comprehend and embrace the other, (which must necessarily be the case with by far the greater number,) let us wish that they may prosper as they desire in their undertaking, and attain what they pursue. But if any individual desire and is anxious not merely to adhere to and make use of present discoveries, but to penetrate still further, and not to overcome his adversaries in disputes, but nature by labor, not, in short, to give elegant and specious opinions, but to know to a certainty and demonstration, let him, as a true son of science, (if such be his wish,) join with us; that when he has left the antechambers of nature trodden by the multitude, an entrance at last may be discovered to her inner apartments. And, in order to be better understood, and to render our meaning more familiar by assigning determinate names, we have accustomed ourselves to call the one method the anticipation of the mind, and the other the interpretation of nature.

Questions:

What is the essence of Bacon’s complaint in the first paragraph about how philosophers of his day tried to make sense of the natural world?

What do you think me means where he says in the second paragraph that it is important to “restore the senses to their former rank, but generally reject that operation of the mind which follows close upon the senses, and open and establish a new and certain course for the mind from the first actual perceptions of the senses themselves”?

What does he implying by “two tribes” in the third paragraph? Who are the two tribes? And what kind of thinking does each employ?