THE WORKS OF BENJAMIN FRANKLIN

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Volume 2

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CORRESPONDENCE AND MISCELLANEOUS WRITINGS 1726 - 1735

XVI: ON THE USEFULNESS OF THE MATHEMATICS Ref. 002

MATHEMATICS originally signified any kind of discipline or learning, but now it is taken for that science which teaches or contemplates whatever is capable of being numbered or measured. That part of the mathematics which relates to numbers only is called *arithmetic;* and that which is concerned about measure in general, whether length, breadth, motion, force, &c., is called *geometry*.

As to the usefulness of arithmetic, it is well known that no business, commerce, trade, or employment whatsoever, even from the merchant to the shopkeeper, &c., can be managed and carried on without the assistance of numbers; for by these the trader computes the value of all sorts of goods that he dealeth in, does his business with ease and certainty, and informs himself how matters stand at any time with respect to men, money, or merchandise, to profit and loss, whether he goes forward or backward, grows richer or poorer. Neither is this science only useful to the merchant, but is reckoned the *primum mobile* (or first mover) of all mundane affairs in general, and is useful for all sorts and degrees of men, from the highest to the lowest.

As to the usefulness of geometry, it is as certain that no curious art or mechanic work can either be invented, improved, or performed without its assisting principles.

It is owing to this that astronomers are put into a way of making their observations, coming at the knowledge of the extent of the heavens, the duration of time, the motions, magnitudes, and distances of the heavenly bodies, their situations, positions, risings, settings, aspects, and eclipses; also the measure of seasons, of years, and of ages.

It is by the assistance of this science that geographers present to our view at once the magnitude and form of the whole earth, the vast extent of the seas, the divisions of empires, kingdoms, and provinces.

It is by the help of geometry the ingenious mariner is instructed how to guide a ship through the vast ocean, from one part of the earth to another, the nearest and safest way and in the shortest time.

By help of this science the architects take their just measures for the structure of buildings, as private houses, churches, palaces, ships, fortifications, &c.

By its help engineers conduct all their works, take the situation and plan of towns, forts, and castles, measure their distances from one another, and carry their measures into places that are only accessible of the eye.

From hence also is deduced that admirable art of drawing sun-dials on any plane howsoever situate, and for any part of the world, to point out the exact time of the day, sun's declination, altitude, amplitude, azimuth, and other astronomical matters.

By geometry the surveyor is directed how to draw a map of any country, to divide his lands, and to lay down and plot any piece of ground, and thereby discover the area in acres, rods, and perches; the gauger is instructed how to find the capacities or solid contents of all kinds of vessels, in barrels, gallons, bushels &c.; and the measurer is furnished with rules for finding the areas and contents of superficies and solids, and casting up all manner of workmanship. All these and many more useful arts too many to be enumerated here, wholly depend upon the aforesaid sciences—viz., arithmetic and geometry.

This science is descended from the infancy of the world, the inventors of which were the first propagators of human kind, as Adam, Noah, Abraham, Moses, and divers others.

There has not been any science so much esteemed and honored as this of the mathematics, nor with so much industry and vigilance become the care of great men, and labored in by the potentates of the world,—viz., emperors, kings, princes, &c.

Mathematical demonstrations are a logic of as much or more use than that commonly learned at schools, serving to a just formation of the mind, enlarging its capacity, and strengthening it so as to render the same capable of exact reasoning, and discerning truth from falsehood in all occurrences, even subjects not mathematical. For which reason. it is said. the Egyptians, Persians, and Lacedæmonians seldom elected any new kings but such as had some knowledge in the mathematics, imagining those who had not, men of imperfect judgments and unfit to rule and govern.

Though Plato's censure, that those who did not understand the 117th proposition of the 13th book of Euclid's *Elements* ought not to be ranked amongst rational creatures, was unreasonable and unjust; yet to give a man the character of universal learning, who is destitute of a competent knowledge in the mathematics, is no less so.

The usefulness of some particular parts of the mathematics in the common affairs of human life has rendered some knowledge of them very necessary to a great part of mankind, and very convenient to all the rest that are any way conversant beyond the limits of their own particular callings.

Those whom necessity has obliged to get their bread by manual industry, where some degree of art is required to go along with it, and who have had some insight into these studies, have very often found advantages from them sufficient to reward the pains they were at in acquiring them. And whatever may have been imputed to some other studies, under the notion of insignificancy and loss of time, yet these, I believe, never caused repentance in any, except it was for their remissness in the prosecution of them.

Philosophers do generally affirm that human knowledge to be most excellent which is conversant amongst the most excellent things. What science then can there be more noble, more excellent, more useful for men, more admirably high and demonstrative, than this of the mathematics?

I shall conclude with what Plato says in the seventh book of his *Republic* with regard to the excellence and usefulness of geometry, being to this purpose;

"Dear friend; you see then that mathematics are necessary, because by the exactness of the method we get a habit of using our minds to the best advantage. And it is remarkable that all men being capable by nature to reason and understand the sciences, the less acute, by studying this, though useless to them in every other respect, will gain this advantage—that their minds will be improved in reasoning aright; for no study employs it more, nor makes it susceptible of attention so much; and those who we find have a mind worth cultivating ought to apply themselves to this study."

XVII: ON TRUE HAPPINESS Ref. 003

The desire of happiness in general is so natural to us that all the world are in pursuit of it; all have this one end in view, though they take such different methods to attain it, and are so much divided in their notions of it.

Evil, as evil, can never be chosen; and though evil is often the effect of our own choice, yet we never desire it but under the appearance of an imaginary good.

Many things we indulge ourselves in may be considered by us as evils, and yet be desirable; but then they are only considered as evils in their effects and consequences, not as evils at present and attended with immediate misery.

Reason represents things to us not only as they are at present, but as they are in their whole nature and tendency; passion only regards them in their former light. When this governs us we are regardless of the future, and are only affected with the present. It is impossible ever to enjoy ourselves rightly if our conduct be not such as to preserve the harmony and order of our faculties and the original frame and constitution of our minds; all true happiness, as all that is truly beautiful, can only result from order.

Whilst there is a conflict betwixt the two principles of passion and reason, we must be miserable in proportion to the struggle, and when the victory is gained and reason so far subdued as seldom to trouble us with its remonstrances, the happiness we have then is not the happiness of our rational nature, but the happiness only of the inferior and sensual part of us, and consequently a very low and imperfect happiness to what the other would have afforded us.

If we reflect upon any one passion and disposition of mind abstract from virtue, we shall soon see the disconnexion between that and true, solid happiness. It is of the very essence, for instance, of envy to be uneasy and disquieted. Pride meets with provocations and disturbances upon almost every occasion. Covetousness is ever attended with solicitude and anxiety. Ambition has its disappointments to sour us, but never the good fortune to satisfy us; its appetite grows the keener by indulgence, and all we can gratify it with at present serves but the more to inflame its insatiable desires.

The passions, by being too much conversant with earthly objects, can never fix in us a proper composure and acquiescence of mind. Nothing but an indifference to the things of this world, an entire submission to the will of Providence here, and a well-grounded expectation of happiness hereafter, can give us a true satisfactory enjoyment of ourselves. Virtue is the best guard against the many unavoidable evils incident to us; nothing better alleviates the weight of the afflictions or gives a truer relish of the blessings of human life.

What is without us has not the least connexion with happiness only so far as the preservation of our lives and health depends upon it. Health of body, though so far necessary that we cannot be perfectly happy without it, is not sufficient to make us happy of itself. Happiness springs immediately from the mind; health is but to be considered as a condition or circumstance, without which this happiness cannot be tasted pure and unabated.

Virtue is the best preservative of health, as it prescribes temperance and such a regulation of our passions as is most conducive to the well-being of the animal economy, so that it is at the same time the only true happiness of the mind and the best means of preserving the health of the body.

If our desires are to the things of this world, they are never to be satisfied. If our great view is upon those of the next, the expectation of them is an infinitely higher satisfaction than the enjoyment of those of the present.

There is no happiness then but in a virtuous and selfapproving conduct. Unless our actions will bear the test of our sober judgments and reflections upon them, they are not the actions and consequently not the happiness of a rational being.

XVIII: ON GOVERNMENT.—NO. I Ref. 004

Government is aptly compared to architecture; if the superstructure is too heavy for the foundation the building totters, though assisted by outward props of art. But leaving it to everybody to mould the similitude according to his particular fancy, I shall only observe that the people have made the most considerable part of the legislature in every free state; which has been more or less so in proportion to the share they have had in the administration of affairs. The English constitution is fixed on the strongest whomsoever please choose basis: we we for our representatives, and thus we have all the advantages of a democracy without any of its inconveniences.

Popular governments have not been framed without the wisest reasons. It seemed highly fitting that the conduct of magistrates, created by and for the good of the whole, should be made liable the to inspection and animadversion of the whole. Besides, there could not be a more potent counterpoise to the designs of ambitious men than a multitude that hated and feared ambition. Moreover, the power they possessed, though great collectively, yet, being distributed among a vast number, the share of each individual was too inconsiderable to lay him under any temptations of turning it to a wrong use. Again, a body of people thus circumstanced cannot be supposed to judge amiss on any essential points; for if they decide in favor of themselves, which is extremely natural, their decision is just, inasmuch as whatever contributes to their benefit is a general benefit and advances the real public good. Hence we have an easy solution of the *sophism*, so often proposed by tyranny, the abettors of who tell us that

when differences arise between a prince and his subjects the latter are incapable of being judges of the controversy, for that would be setting up judge and party in the same person.

have foreigners had a truer idea Some of our constitution. We read in the Memoirs of the late Archbishop Fenelon, of Cambrav. the celebrated author of Telemachus, a conversation which he had with the Pretender (son of James the Second, of England): "If ever you come to the crown of England," says the bishop, "you will be a happy prince; with an unlimited power to do good and only restrained from doing evil." A blunt Briton, perhaps, would have said in plain English: "You 'll be at liberty to do as much good as you please, but, by G-, you shall do us no hurt." The bishop sweetened the pill; for such it would appear in its simple form to a mind fraught with notions of arbitrary power and educated among a people who, with the utmost simplicity, boast of their slavery.

What can be more ridiculous than to hear them frequently object to the English gentlemen that travel in their country, "What is your king? Commend me to our grand monarch, who can do whatever he pleases." ^{Ref.} ⁰⁰⁵ But begging pardon of these facetious gentlemen, whom it is not my intention to disturb in their many notions of government, I shall go on to examine what were the sentiments of the ancient Romans on this head.

We find that their dictator, a magistrate never created but in cases of great extremity, vested with power as absolute during his office (which never exceeded six months) as the greatest kings were never possessed of,—this great ruler was liable to be called to an account by any of the tribunes of the people, ^{Ref. 006} whose persons were at the same time rendered sacred by the most solemn laws. This is evident proof that the Romans were of opinion that the *people could not in any sense divest themselves of the supreme authority* by conferring the most extensive power they possibly could imagine, on one or more persons acting as magistrates.

This appears still more evident in remarking that the people sat as umpire of the differences which had arisen between the dictator and senate in the case of young Fabius. Ref. 007

The great deference which Cicero paid to the judgment of the Roman people appears by those inimitable orations of which they were the sole judges and auditors. That great orator had a just opinion of their understanding. Nothing gave him a more sensible pleasure than their approbation. But the Roman populace were more learned than ours, more *virtuous* perhaps, but their sense of discernment was not better than ours. However, the judgment of a whole people, especially of a *free people*, is looked upon to be infallible, so that it has become a common proverb that the voice of God is the voice of the people, *Vox Dei est populi vox.* And this is universally true while they remain in their proper sphere, unbiased by faction, undeluded by the tricks of designing men.

Thank God! we are in the full enjoyment of all these privileges. But can we be taught to prize them too much? or how can we prize them equal to their value if we do not know their intrinsic worth, and that they are not a gift bestowed upon us by other men, but *a right that belongs to us by the laws of God and nature?*

Since they are our right, let us be vigilant to preserve them uninfringed and free from encroachments. If animosities arise and we should be obliged to resort to party, let each of us range himself on the side which unfurls the ensigns of *public good*. Faction will then vanish, which, if not timely suppressed, may overturn the balance, the palladium of liberty, and crush us under its ruins.

The design of this paper is to assert the *common rights of mankind* by endeavouring to illustrate eternal truths that cannot be shaken even with the foundations of the world.

I may take another opportunity to show how a government founded on these principles rises into the most beautiful structure, with all the graces of symmetry and proportion, as much different from that raised on arbitrary power as Roman architecture from a Gothic building.

ON GOVERNMENT.-NO. II Ref. 008

An ancient sage of the law Ref. 009 says: "The King can do no wrong, for, if he doeth wrong, he is not the King." Ref. ⁰¹⁰ And in another place: "When the King doth justice, he is God's vicar; but when he doth unjustly, he is the agent of the Devil." Ref. 011 The politeness of the later times has given a softer turn to the expression. It is now said: The King can do no wrong, but his ministers may. In allusion to this the Parliament of 1641 declared they made war against the King for the King's service. But his Majesty affirmed that such a distinction was absurd; though, by the way, his own creed contained a greater absurdity, for he believed he had an authority from God to oppress the subjects whom by the same authority he was obliged to cherish and defend. Aristotle calls all princes *tyrants*, from the moment they set up an interest different from that of their subjects; and this is the only definition he gives us of tyranny. Our own countryman before cited and the sagacious Greek both agree on this point, that a governor who acts contrary to the ends of government loses the title bestowed on him at

his institution. It would be highly improper to give the same name to things of different qualities or that produce different effects. Matter, while it communicates heat, is generally called *fire*, but when the flames are extinguished the appellation is changed. Sometimes indeed the same sound serves to express things of a contrary nature, but that only denotes a defect or poverty in the language.

A wicked prince imagines that the crown receives a new lustre from absolute power, whereas every step he takes to obtain it is a forfeiture of the crown.

His conduct is as foolish as it is detestable; he aims at glory and power, and treads the path that leads to dishonor and contempt; he is a plague to his country, and deceives himself.

During the inglorious reigns of the Stuarts (except a part of Queen Anne's), it was a perpetual struggle between them and the people: those endeavouring to subvert, and these bravely opposing the subverters of liberty. What were the consequences? One lost his life on the scaffold, another was banished. The memory of all of them stinks in the nostrils of every true lover of his country; and their history stains with indelible blots the English annals.

The reign of Queen Elizabeth furnishes a beautiful contrast. All her views centred in one object, which was the public good. She made it her study to gain the love of her subjects, not by flattery or little soothing arts, but by rendering them substantial favors. It was far from her policy to encroach on their privileges; she augmented and secured them.

And it is remarked to her eternal honor, that the acts presented to her for her royal approbation (forty or fifty of a session of Parliament) were signed without examining any farther than the titles. This wise and good Queen only reigned for her people, and knew that it was absurd to imagine they would promote any thing contrary to their own interests, which she so studiously endeavoured to advance. On the other hand, when this Queen asked money of the Parliament they frequently gave her more than she demanded, and never inquired how it was disposed of, except for form's sake, being fully convinced she would not employ it but for the general welfare. Happy princes, happy people! What harmony, what mutual confidence! Seconded by the hearts and purses of her subjects, she crushed the exorbitant power of Spain, which threatened destruction to England and chains to all Europe. That monarchy has ever since pined under the stroke, so that now, when we send a man-of-war or two to the West Indies, it puts her into such a panic fright that if the galleons can steal home she sings *Te Deum* as for a victory.

This is a true picture of government; its reverse is *tyranny*.

XIX: ON DISCOVERIES Ref. 012

The world but a few ages since was in a very poor condition as to trade and navigation; nor indeed were they much better in other matters of useful knowledge. It was a green-headed time; every useful improvement was hid from them; they had neither looked into heaven nor earth, into the sea nor land, as has been done since. They had philosophy without experiments, mathematics without instruments, geometry without scale, astronomy without demonstration.

They made war without powder, shot, cannon, or mortars; nay, the mob made their bonfires without squibs or crackers. They went to sea without compass, and sailed without the needle. They viewed the stars without telescopes, and measured latitudes without observation. Learning had no printing-press, writing no paper, and paper no ink. The lover was forced to send his mistress a deal board for a love-letter, and a billet-doux might be about the size of an ordinary trencher. They were clothed without manufacture, and their richest robes were the skins of the most formidable monsters. They carried on trade without books, and correspondence without posts; their merchants kept no accounts, their shopkeepers no cash-books; they had surgery without anatomy, and physicians without the *materia medica;* they gave emetics without ipecacuanha, drew blisters without cantharides, and cured agues without the bark.

As for geographical discoveries, they had neither seen the North Cape, nor the Cape of Good Hope south. All the discovered inhabited world which they knew and conversed with was circumscribed within very narrow limits, viz., France, Britain, Spain, Italy, Germany, and Greece; the lesser Asia, the west part of Persia, Arabia, the north parts of Africa, and the islands of the Mediterranean sea, and this was the whole world to them; not that even these countries were fully known either, and several parts of them not inquired into at all. Germany was known little further than the banks of the Elbe; Poland as little beyond the Vistula, or Hungary as little beyond the Danube; Muscovy or Russia perfectly unknown, as much as China beyond it; and India only by a little commerce upon the coast about Surat and Malabar. Africa had been more unknown, but by the ruin of the Carthaginians; all the western coast of it was sunk out of knowledge again and the northern coast of Africa. in the forgotten: Mediterranean, remained known, and that was all; for the Saracens overrunning the nations which were planted there ruined commerce as well as religion. The Baltic sea was not discovered, nor even the navigation of it known; for the Teutonic knights came not thither till the thirteenth century.

America was not heard of, nor so much as a suggestion in the minds of men that any part of the world lay that way. The coasts of Greenland, or Spitsbergen, and the whalefishing not known; the best navigators in the world, at that time, would have fled from a whale with much more fright and horror than from the Devil in the most terrible shapes they had been told he appeared in.

The coasts of Angola, Congo, the Gold and the Grain coasts, on the west side of Africa, whence, since that time, such immense wealth has been drawn, not discovered, nor the least inquiry made after them. All the East India and China trade, not only undiscovered, but out of the reach of expectation! Coffee and tea (those modern blessings of mankind) had never been heard of. All the unbounded ocean we now call the South Sea was hid and unknown. All the Atlantic ocean beyond the mouth of the Straits was frightful and terrible in the distant prospect, nor durst any one peep into it, otherwise than as they might creep along the coast of Africa, towards Sallee or Santa Cruz. The North Sea was hid in a veil of impenetrable darkness. The White Sea, or Archangel, was a very modern discovery; not found out till Sir Hugh Willoughby doubled the North Cape, and paid dear for the adventure, being frozen to death with all his crew, on the coast of Lapland; while his companions' ship, with the famous Mr. Chancellor, went on to the gulf of Russia, called the White Sea, where no Christian strangers had ever been before him.

In these narrow circumstances stood the world's knowledge at the beginning of the fifteenth century, when men of genius began to look abroad and about them. Now, as it was wonderful to see a world so full of people, and people so capable of improving, yet so stupid and so blind, so ignorant and so perfectly unimproved; it was wonderful to see with what a general alacrity they took the alarm, almost all together, preparing themselves as it were on a sudden, by a general inspiration, to spread knowledge through the earth and to search into every thing that it was possible to uncover.

How surprising is it to look back so little a way behind us and see that even in less than two hundred years all this (now so self-wise) part of the world did not so much as know whether there was any such place as a Russia, a China, a Guinea, a Greenland, or a North Cape! That as to America, it was never supposed there was any such place; neither had the world, though they stood upon the shoulders of four thousand years' experience, the least thought so much as that there was any land that way! Ref. 013

As they were ignorant of places, so of things also; so vast are the improvements of science that all our knowledge of mathematics, of nature, of the brightest part of human wisdom, had their admission among us within these two last centuries.

What was the world, then, before? And to what were the heads and hands of mankind applied? The rich had no commerce, the poor no employment; war and the sword was the great field of honor, the stage of preferment; and you have scarce a man eminent in the world for any thing before that time but for a furious, outrageous falling upon his fellow-creatures, like Nimrod and his successors of modern memory.

The world is now daily increasing in experimental knowledge; and let no man flatter the age with pretending we have arrived at a perfection of discoveries.

What 's now discovered only serves to show,

That nothing 's known to what is yet to know.

XX: THE WASTE OF LIFE Ref. 014

Anergus was a gentleman of a good estate; he was bred to no business and could not contrive how to waste his hours agreeably; he had no relish for any of the proper works of life, nor any taste at all for the improvements of the mind; he spent generally ten hours of the four-andtwenty in his bed; he dozed away two or three more on his couch, and as many were dissolved in good liquor every evening if he met with company of his own humor. Five or six of the rest he sauntered away with much indolence; the chief business of them was to contrive his meals, and to feed his fancy beforehand with the promise of a dinner and supper; not that he was so absolute a glutton, or so entirely devoted to appetite, but chiefly because he knew not how to employ his thoughts better he let them rove about the sustenance of his body. Thus he had made a shift to wear off ten years since the paternal estate fell into his hands; and yet, according to the abuse of words in our day, he was called a man of virtue, because he was scarce ever known to be quite drunk, nor was his nature much inclined to lewdness.

One evening as he was musing alone, his thoughts happened to take a most unusual turn, for they cast a glance backward and began to reflect on his manner of life. He bethought himself what a number of living beings had been made a sacrifice to support his carcass, and how much corn and wine had been mingled with those offerings. He had not quite lost all the arithmetic that he had learned when he was a boy, and he set himself to compute what he had devoured since he came to the age of man.

"About a dozen of feathered creatures, small and great, have, one week with another," said he, "given up their lives to prolong mine, which in ten years amounts to at least six thousand.

Fifty sheep have been sacrificed in a year, with half a hecatomb of black cattle, that I might have the choicest part offered weekly upon my table. Thus a thousand beasts

out of the flock and the herd have been slain in ten years' time to feed me, besides what the forest has supplied me with. Many hundreds of fishes have, in all their varieties, been robbed of life for my repast, and of the smaller fry as many thousands.

A measure of corn would hardly afford me fine flour enough for a month's provision, and this arises to above six score bushels; and many hogsheads of ale and wine and other liquors have passed through this body of mine, this wretched strainer of meat and drink.

And what have I done all this time for God or man? What a vast profusion of good things upon a useless life and a worthless liver! There is not the meanest creature among all these which I have devoured but hath answered the end of its creation better than I. It was made to support human nature, and it hath done so. Every crab and oyster I have eat, and every grain of corn I have devoured, hath filled up its place in the rank of beings with more propriety and honor than I have done. O shameful waste of life and time!"

In short, he carried on his moral reflections with so just and severe a force of reason as constrained him to change his whole course of life, to break off his follies at once and to apply himself to gain some useful knowledge when he was more than thirty years of age. He lived many following years with the character of a worthy man and an excellent Christian; he performed the kind offices of a good neighbour at home, and made a shining figure as a patriot in the senate-house; he died with a peaceful conscience, and the tears of his country were dropped upon his tomb.

The world that knew the whole series of his life stood amazed at the mighty change. They beheld him as a wonder of reformation, while he himself confessed and adored the Divine power and mercy which had transformed him from a brute to a man.

But this was a single instance; and we may almost venture to write miracle upon it. Are there not numbers of both sexes among our young gentry in this degenerate age, whose lives thus run to utter waste, without the least tendency to usefulness?

When I meet with persons of such a worthless character as this it brings to my mind some scraps of Horace:

Nos numerus sumus, et fruges consumere nati,

.... Alcinoique

.....juventus,

Cui pulchrum fuit in medios dormire dies, &c.

PARAPHRASE

There are a number of us creep Into this world, to eat and sleep; And know no reason why they 're born, But merely to consume the corn, Devour the cattle, fowl, and fish, And leave behind an empty dish. Though crows and Ravens do the same, Unlucky birds of hateful name, Ravens or crows might fill their places, And swallow corn and eat carcáses. Then, if their tomb-stone, when they die, Be n't taught to flatter and to lie, There 's nothing better will be said, Than that *they 've eat up all their bread, Drunk all their drink, and gone to bed.*

There are other fragments of that heathen poet which occur on such occasions; one in the first of his *Satires*, the other in the last of his *Epistles*, which seem to represent life only as a season of luxury:

. . . Exacto contentus tempore vitæ Cedat, uti conviva satur

Lusisti satis, edisti satis, atque bibisti; Tempus abire tibi est.

Which may be thus put into English:

Life 's but a feast; and when we die, Horace would say, if he were by: "Friend, thou hast eat and drunk enough, 'T is time now to be marching off; Then like a well-fed guest depart, With cheerful looks, and ease at heart; Bid all your friends good night, and say, *You 've done the business of the day.*"

XXI: NECESSARY HINTS TO THOSE THAT WOULD BE RICH

The use of money is all the advantage there is in having money.

For six pounds a year you may have the use of one hundred pounds, provided you are a man of known prudence and honesty.

He that spends a groat a day idly spends idly above six pounds a year, which is the price for the use of one hundred pounds.

He that wastes idly a groat's worth of his time per day, one day with another, wastes the privilege of using one hundred pounds each day.

He that idly loses five shillings' worth of time loses five shillings, and might as prudently throw five shillings into the sea.

He that loses five shillings, not only loses that sum, but all the advantage that might be made by turning it in dealing, which, by the time that a young man becomes old, will amount to a considerable sum of money.

Again, he that sells upon credit asks a price for what he sells equivalent to the principal and interest of his money for the time he is to be kept out of it; therefore he that buys upon credit pays interest for what he buys, and he that pays ready money might let that money out to use; so that he that possesses any thing he has bought, pays interest for the use of it.

Yet, in buying goods, it is best to pay ready money, because he that sells upon credit expects to lose five per cent by bad debts; therefore he charges, on all he sells upon credit, an advance that shall make up that deficiency.

Those who pay for what they buy upon credit pay their share of this advance.

He that pays ready money escapes, or may escape, that charge.

A penny saved is two pence clear,

A pin a day 's a groat a year.

XXII: THE WAY TO WEALTH

as clearly shown in the preface of an old almanac entitled "poor richard improved" $^{\rm Ref.\ 015}$

Richard Saunders

Courteous Reader:

I have heard that nothing gives an author so great pleasure as to find his works respectfully quoted by others. Judge, then, how much I must have been gratified by an incident I am going to relate to you. I stopped my horse lately where a great number of people were collected at an auction of merchants' goods. The hour of the sale not being come, they were conversing on the badness of the times; and one of the company called to a plain, clean, old man, with white locks: "Pray, Father Abraham, what think you of the times? Will not these heavy taxes quite ruin the country? How shall we ever be able to pay them? What would you advise us to do?" Father Abraham stood up and replied: "If you would have my advice, I will give it you in short; for *A word to the wise is enough*, as Poor Richard says." They joined in desiring him to speak his mind, and gathering round him he proceeded as follows:

"Friends," said he, "the taxes are indeed very heavy, and if those laid on by the government were the only ones we had to pay, we might more easily discharge them, but we have many others and much more grievous to some of us. We are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly, and from these taxes the commissioners cannot ease or deliver us by allowing an abatement. However, let us hearken to good advice and something may be done for us; *God helps them that help themselves*, as Poor Richard says.

I. It would be thought a hard government that should tax its people one-tenth part of their time, to be employed in its service, but idleness taxes many of us much more; sloth by bringing on diseases, absolutely shortens life. *Sloth, like rust, consumes faster than labor wears, while the used key is always bright,* as Poor Richard says. *But dost thou love life, then do not squander time, for that is the stuff life is made of,* as Poor Richard says. How much more than is necessary do we spend in sleep, forgetting that *The sleeping fox catches no poultry,* and that *There will be sleeping enough in the grave,* as Poor Richard says.

"If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest"

prodigality, since, as he elsewhere tells us, Lost time is never found again, and what we call time enough always proves little enough. Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity. Sloth makes all things difficult, but industry all things easy; and He that riseth late must trot all day, and shall scarce overtake his business at. night; while Laziness travels so slowly that Poverty soon overtakes him. Drive thy business, let not that drive thee; and Early to bed and early to rise, makes a man healthy, wealthy, and wise, as Poor Richard says.

"So what signifies wishing and hoping for better times? We mav make these times better if we bestir ourselves. Industry need not wish, and he that lives upon hopes will die fasting. There are no gains without pains; then help, hands, for I have no lands; or if I have they are smartly taxed. *He that hath a trade hath an estate, and he* that hath a calling hath an office of profit and honor, as Poor Richard says; but then the trade must be worked at and the calling followed, or neither the estate nor the office will enable us to pay our taxes. If we are industrious we shall never starve, for At the working man's house hunger looks in but dares not enter. Nor will the bailiff nor the constable enter, for Industry pays debts, while despair *increaseth them.* What though you have found no treasure, nor has any rich relation left you a legacy, *Diligence is the* mother of good luck, and God gives all things to industry. Then plough deep while sluggards sleep, and you shall have corn to sell and to keep. Work while it is called to-day, for you know not how much you may be hindered tomorrow. One to-day is worth two to-morrows, as Poor Richard says; and further, Never leave that till to-morrow which you can do to-day. If you were a servant would not you be ashamed that a good master should catch you idle? Are you then your own master? Be ashamed to catch yourself idle when there is so much to be done for yourself,

your family, your country, and your king. Handle your tools without mittens; remember that *The cat in gloves catches no mice,* as Poor Richard says. It is true there is much to be done, and perhaps you are weak-handed, but stick to it steadily and you will see great effects; for *Constant dropping wears away stones;* and *By diligence and patience the mouse ate in two the cable;* and *Little strokes fell great oaks.*

"Methinks I hear some of you say, 'Must a man afford himself no leisure?' I will tell thee, my friend, what Poor Richard says: *Employ thy time well, if thou meanest to gain leisure; and, since thou art not sure of a minute, throw not away an hour.* Leisure is time for doing something useful; this leisure the diligent man will obtain, but the lazy man never; for A life of leisure and a life of laziness are two things. Many, without labor, would live by their wits only, but they break for want of stock; whereas industry gives comfort and plenty and respect. Fly pleasures, and they will follow you. The diligent spinner has a large shift; and now I have a sheep and a cow, everybody bids me good morrow.

"II. But with our industry we must likewise be steady, settled, and careful, and oversee our own affairs with our own eyes, and not trust too much to others; for, as Poor Richard says:

I never saw an oft removed tree, Nor yet an oft-removed family, That throve so well as those that settled be.

And again, *Three removes are as bad as a fire;* and again, *Keep thy shop, and thy shop will keep thee;* and again: *If you would have your business done, go; if not, send.* And again:

He that by the plough would thrive, Himself must either hold or drive. And again, The eye of a master will do more work than both his hands; and again, Want of care does us more damage than want of knowledge; and again, Not to oversee workmen is to leave them your purse open. Trusting too much to others' care is the ruin of many; for, In the affairs of this world men are saved, not by faith, but by the want of it; but a man's own care is profitable; for, If you would have a faithful servant, and one that you like, serve yourself. A little neglect may breed great mischief; for want of a nail the shoe was lost; for want of a shoe the horse was lost; and for want of a horse the rider was lost, being overtaken and slain by the enemy; all for want of a little care about a horse-shoe nail.

"III. So much for industry, my friends, and attention to one's own business; but to these we must add frugality, if we would make our industry more certainly successful. A man may, if he knows not how to save as he gets, keep his nose all his life to the grindstone and die not worth a groat at last. *A fat kitchen makes a lean will;* and

Many estates are spent in the getting, Since women for tea forsook spinning and knitting, And men for punch forsook hewing and splitting.

If you would be wealthy, think of saving as well as of getting. The Indies have not made Spain rich, because her outgoes are greater than her incomes.

"Away then with your expensive follies, and you will not then have so much cause to complain of hard times, heavy taxes, and chargeable families; for

Women and wine, game and deceit, Make the wealth small and the want great. And further, *What maintains one vice would bring up two children.* You may think, perhaps, that a little tea, or a little punch now and then, diet a little more costly, clothes a little finer, and a little entertainment now and then, can be no great matter; but remember, *Many a little makes a mickle.* Beware of little expenses: *A small leak will sink a great ship,* as Poor Richard says; and again, *Who dainties love, shall beggars prove;* and moreover, *Fools make feasts, and wise men eat them.*

"Here you are all got together at this sale of fineries and knick-knacks. You call them *goods;* but if you do not take care they will prove *evils* to some of you. You expect they will be sold cheap, and perhaps they may for less than they cost; but if you have no occasion for them they must be dear to you. Remember what Poor Richard says: Buy what thou hast no need of, and ere long thou shalt sell thy necessaries. And again, At a great pennyworth pause a *while.* He means, that perhaps the cheapness is apparent only, and not real; or the bargain, by straitening thee in thy business, may do thee more harm than good. For in another place he says, Many have been ruined by buying good pennyworths. Again, It is foolish to lay out money in a *purchase of repentance;* and yet this folly is practised every day at auctions for want of minding the Almanac. Many a one, for the sake of finery on the back, have gone with a hungry belly and half-starved their families. Silks and satins, scarlet and velvets, put out the kitchen fire, as Poor Richard says.

"These are not the necessaries of life; they can scarcely be called the conveniences; and yet, only because they look pretty, how many want to have them! By these and other extravagances the genteel are reduced to poverty and forced to borrow of those whom they formerly despised, but who, through industry and frugality, have maintained their standing; in which case it appears plainly that *A ploughman on his legs is higher than a gentleman on his* knees, as Poor Richard says. Perhaps they have had a small estate left them, which they knew not the getting of: they think, *It is day, and will never be night;* that a little to be spent out of so much is not worth minding; but *Always taking out of the meal-tub, and never putting in, soon comes to the bottom,* as Poor Richard says; and then, *When the well is dry, they know the worth of water.* But this they might have known before, if they had taken his advice. *If you would know the value of money, go and try to borrow some; for he that goes a borrowing goes a sorrowing,* as Poor Richard says; and indeed so does he that lends to such people, when he goes to get it again. Poor Dick further advises and says,

Fond pride of dress is sure a very curse; Ere fancy you consult, consult your purse.

And again, *Pride is as loud a beggar as Want, and a great deal more saucy.* When you have bought one fine thing you must buy ten more, that your appearance may be all of a piece; but Poor Dick says, *It is easier to suppress the first desire than to satisfy all that follow it.* And it is as truly folly for the poor to ape the rich, as for the frog to swell in order to equal the ox.

Vessels large may venture more, But little boats should keep near shore.

It is, however, a folly soon punished; for, as Poor Richard says, *Pride that dines on vanity sups on contempt. Pride breakfasted with Plenty, dined with Poverty, and supped with Infamy.* And after all, of what use is this pride of appearance, for which so much is risked, so much is suffered? It cannot promote health, nor ease pain; it makes no increase of merit in the person; it creates envy; it hastens misfortune.