The true theory and practice of fevers must be included amongst the requirements

Over a period of two years we carried out medical studies on the most frequented provinces and territories of the microscopic empire obtaining both results and fruits I believe, of the individual parts of the human body. We did not study the structure or function – a Sparta we have left to be tackled by the diligence of scholars – but rather, as far as our efforts permitted, the internal diseases, and we explained the individual remedies that both reason and experience have shown to be most effective.

You yourselves, illustrious young students, a great number of whom, to my deepest joy, I have been granted the opportunity to see again this year – and one I hope shall be both happy and propitious – know precisely which beasts and monsters we surprised while they lay within the very bosom of life itself, not yet having reached the extremities. During his journeys over the world, Hercules did not come up against as many beasts or monsters as we did in the multiple forms of monstrous legions of ailments that assailed us, so that it was no easier task to explain how they could be banished from the places they had laid siege to, than it was for Hercules himself to clean the Augean stables in one day.

There is no need to remind you of the harmful illnesses that we came across in the holy fortress of Pallas Athena and the lararium of the soul, that is the head, Herculean diseases such as epilepsy, apoplexy, catalepsy, madness and other similar ailments that are able to banish even the soul from its rightful home; furthermore, other ills that assail and afflict the heart itself, the very source of
life and its primary propelling force, for example, syncope, polyps, fainting, and animated scourges such as verminous species; neither shall I remind you how many fatal illnesses put the natural organs to the test – the stomach, intestines, liver, spleen, the kidneys and even the reproductive organs; finally, neither shall I repeat how each body part suffers its own fate.

For two years we therefore studied all of these things, asking the three kingdoms for help – the animal, plant and mineral kingdoms – to assail the countless enemies that are making an attempt against your life, either covertly or in the open.

They went down to the bowels of the earth so they could study remedies, what Ovid called “stimuli of evil”, albeit with a different meaning.

However, despite our incessant work, we have been unable to get to the bottom of each problem. There is still much to be done and it is all fundamental and of the utmost importance. This year we have to deal with a multi-headed hydra, one that is invigorated rather than killed by the fire we give it – in other words, a constantly changing fever of the most atrocious nature that has mocked the most illustrious physicians for generations and, what is most regrettable, still manages to do so.

Thus, no matter how cautious and circumspect the physician is when facing this multiform monster, he will never be sufficiently armed and prepared to attack it. What is astonishing, however, is that although it has discovered the nature, location and appropriate treatment of the many ills that afflict the human body through studies that can never be praised enough, the art of medicine has made such little progress in the treatment of fevers, one of the most lethal, terrible kinds of disease for human nature. For this reason I believe that nobody should think, not even noblemen and the wise, that with today’s discourse I am doing the profession an injustice, a profession I serve and in which I have grown old, when I show that the theory of fevers and their treatment are still to be included amongst the requirements.

However, I would not like you to be frightened at the very outset, you illustrious young men, far be it from me to want to frighten you, those whom I wish to see bold and courageous, but also cautious and prudent, in particular when a man’s life is at stake – indeed, thanks to lengthy observation I have seen just what sort of
In a urtural Orations rashness one can resort to at times when treating fevers. And in the art of medicine, there is nothing more deadly than this rashness, since it is the offspring of ignorance. Indeed, as the old proverb goes, rashness comes from inexperience. If we were to consult experts of the military art and the most illustrious leaders of armies, warning them in advance that they are going to up against a powerful, wily enemy would be much less risky and a much better omen than making them indifferent to the ignorance and inexperience in the military art of their enemy. Indeed, the idea of looking forward to a great victory and abundant spoils acts as a better incentive to fight courageously than does the idea of fighting an adversary of lesser importance.

Thus, since these are particular diseases, so far we have had several skirmishes with this roving enemy. However, now, with fever, the king of disease, obeyed respectfully by nearly all ills that join forces, we need to fight with all our strength and judgement and amidst the din of weapons clashing, that hurts our ears and deafens them, in this asylum, or rather prytaneum, which the magnificence of the most honourable Veneto Senate has granted us, and apply ourselves and try to show what balance of strength and prudence is most opportune when dealing with the attack of fevers.

First of all, as in the army, what is required is awareness of one's own abilities, the nature, character and strength of the adversary to be tackled so that this astute enemy is not faced blindly.

As it is important that you have an idea of the innate ferocity with which fever breaks out in diverse places and rages until it has wiped out mankind, I think it is imperative you understand that in this category of diseases some are endemic and localised, that is they are characteristic to certain places and regions, for example plica [Polish plait] in Poland, scurvy in Germany, consumption in England, goitre amongst the inhabitants of the Apennines while others become widespread in certain constitutions amongst all peoples, such as diarrhoea, rheumatism and the like and are epidemic. Fever alone has acquired the primacy of an illness that is neither endemic nor epidemic but worldwide, or rather global. Indeed, is there any region that is so impenetrable, so far-removed from the seasons and sun, covered by an icy sky that it can escape the outbursts of fever?

Each age has its own characteristic diseases as do the different
sexes and various seasons, which the great Hippocrates himself spoke of, and the same can even be said of diverse life styles and kinds of exercise. Such factors are of no importance to fevers and people of all ages can fall victim to them, even childhood, which is so humid, old age which is cold, and neither of them have enough strength to make sure they do not become a fertile grazing ground for the feverish flame. Fevers are just as much an enemy to the stronger sex as they are to the weaker one, to the poor in their workshops and kings in their towers; it crushes them with the same foot, no matter what the season. Fevers abide by no law, on the contrary, they are totally anarchistic, pitiless and characterised by a cruelty that is beautiful and good.

However, and this is what is so regrettably, after thousands of years all the physicians’ attempts and their efforts to explore – but not to thwart – the nature of fever have proved almost in vain. How often I have found delight in leafing through the pages of outstanding, enlightened physicians, both the ancients and moderns, and the volumes that are considered more valuable than cedar – and I realise that I can say the same of myself as the old man of Terenzio, who summoned more than one lawyer for his son, and after hearing them discuss the matter together he said, “I am even more unsure than I was before”.

The idea the great Hippocrates always gave us of fever was one concealed behind the image of fire – indeed, in his works at times he calls it \( \piυρ \) (pyr) and at others \( \piυρετός \) (pyretos). Following in Hippocrates’ footsteps, Galen called it “fever of innate heat of a fiery nature” and his opinion was then adopted “with feet and hands” as it were (i.e. with all their strength) by those who studied medicine from intermediaries and taught it in schools. Galen’s opinion therefore prevailed for a considerable length of time and it was generally believed that the most important and effective way to fight fever was to fight heat with cold and humidity with dryness.

Nevertheless, during the century that has just drawn to a close, Gallenic opinion began to waived considerably. Indeed, first “learning from the comments” and from the interpretation of the Ancients ceased and in its place much more attention was paid to the study of nature’s innermost secrets; new foundations were laid and new majestic and magnificent buildings were constructed so that today, fevers assume different appearances to the ones they once had, but
whether true or merely disguised until then I would not dare to say. Indeed, every writer would describe them as he wished, resulting in such a variety of appearances that they seemed to be talking about a damask garment.

Hence, new terminology – the fruit of the indignant ancients and the sensitive soul – insinuated itself into the schools. After learning of the circulation of the blood in the human body, some therefore believed that fever was nothing other than the accelerated movement of blood contrary to nature. Some followed an opposite line of thought and believed that fever centred on the movement of blood that had been delayed contrary to nature; others were inspired by the baker's trade and transferred the image of fermentation to the blood mass, and therefore spoke of febrile effervescence. Obviously there were also those who claimed that the heat of fever was something adventitious, that occurred at a later moment and was not a constant companion, thus introducing cold fevers that ended in tragedy together with constant cold, from the moment they began, until the final resolution. Thus, day after day new systems, or rather, if evaluated as they deserve to be, shaky hypotheses and grandiose postulates were put forward for fevers.

If one were to review the individual differences and particular names of the fevers used to describe them today, one would need the help of a nomenclator. The moderns added so many to the names the Ancients used to describe several uncommon fevers, that anyone who wishes to recite names from the books of fevers does not really deserve to be remembered. However, I would not like anyone to think that I disapprove of this custom, one which is so praiseworthy in other ways. Indeed, fever is a monster that can be compared with the greatest fury of all.

"A thousand names, harmful in a thousand ways".

And how many discussions on the subject of fevers have there been in schools? And they are still fashionable – whether it is fluid or solid; if it is the heart, the primary living being, or the entire blood mass that is capable of febrile tempests? How much discussion has been about the true or more probable cause of fever – together with the Galenists as to whether the bile is pure, corrupt or decaying, or merely warmed up and inflamed; together with the Hermet-
ists as to whether the sulphur and nitre of the microcosm is burning, or whether it is the fight and battle of an alkali with an acid?

And what about the number of fantasies and images regarding the cyclic reoccurrence of fevers that have been put down on paper? Of course, just as in the whole of philosophy nothing has taxed the soundest minds as has the discussion on the true cause of the ebb and flow of the sea at fixed times, both day and night, in particular in the Euripus Strait in Euboea, where the occurrence of the tides was observed seven times both day and night; nothing has taxed the minds of illustrious men and eluded them more in their studies than what causes the febrile cycle. Indeed, can you tell me, until now, who has been able to give a plausible reason, one accepted by the Sages, as to why some fevers return daily, others every second day, while others reoccur at set times every 4, 5 or 6 days, choosing the hour as if they were some highly developed instrument?

Which clinician is so diligent, so experienced, that once he has been summoned to the bedside of a patient who has suddenly come down with a fever, that after feeling his pulse he is able without any doubt at all to say whether the fever will be intermittent or continuous, a simple, double tertian, quartan, synochus, or a different kind? And this despite the fact that Galen wrote that any physician who is unable to recognise which kind of fever it is, in particular in the case of a quartan fever, does not deserve to be called a physician. Joannes Campeggius rightly believed that because of this supercilious statement, Galen deserved to be punished severely, stating in his report that he and the other Greeks were both presumptuous and mendacious and this opinion was shared by the illustrious Sylvius, who called such conceit "thrasonic".

However, although the nature of fevers is so complicated and convoluted that centuries later we still find ourselves with the same worries and in the same dire straits, and since there is no enemy as hostile and unreliable in the entire category of illnesses, we have still had the audacity to include amongst various medical questions whether it is legitimate to provoke a fever to cure other illnesses, since in certain cases such as convulsions and pain of the upper abdomen a fever has brought about a cure, as if it were in our power to light the fire of fever and put it out whenever we so wished. How much I would have liked to know just which element, whether simple or a compound could provoke a fever, whether tertian, quartan,
or any other kind! Indeed, the news that has been spread about the sycamore, claiming it has the power to provoke a tertian fever, is generally believed to be a myth. Similar to the previous question but not quite as audacious is one put forward by Celsus, who asked whether it was legitimate to increase a slow fever so it was more effective in healing. However, it is a well-known fact that the gifts that come from an enemy are highly suspect and a bad omen, and as the old proverb goes, “An enemy’s gifts are no gifts at all”. As Seneca says on the subject: “enquiring into a physician’s actions is infamy of the most serious kind; many were unable to dispel the illnesses they had worsened or irritated so they could cure them with even greater glory and neither were they able to overcome them by tormenting the patients even more”.

But what is the point of all this? Some will say, what should be discussed in the schools is more the task of the theoretical rather than the practical physician. To this, I reply that the practice of fevers is linked just as much to its difficulties as it is to theory. Indeed, how often has it happened that when more than one physician gathered around the bed of a patient with a fever, it was impossible for them to agree on the nature of the fever and how it should be treated? So much so, that this consultation, defined by Plato as sacred, was all too often shamefully desecrated. So one can observe that some physicians, all as diligent as medical tradition deems, are screaming at the top of their voices that the fire of the fever has to be put out immediately, otherwise the whole building will burn down, and that the enemy has to be crushed in his camp as soon as possible, before he can burst out and fortify himself; some are shouting that one must proceed slowly, that the warming up of the humours is incumbent otherwise the crisis will overcome them in the wrong direction; and others are saying that one must wait for the fever to run its course or that it is better for physicians to proceed slowly rather than take any hasty action. As a result, as is the case in the military field, medicine also has its Fabios and Marcellos.

The same can be said of the remedies that are adopted. Some see blood-letting as the only way to eliminate a fever while others, abstemious of human blood and called ‘haemophobes’, since they believe that the treasure of the human body (i.e. the blood) is let in vain because the principle causes of fevers are obstruction and putrefaction – both things that find no remedy in blood-letting.
There are also those, and no small number at that, who are totally committed to purging the body and who would consider it a sacrilege if they were not allowed to administer their sedative every time a fever broke out; what is more, once the fever has been resolved, they insist on a solemn, 'eradicative' (i.e. radical) emptying of the bowels as they call it, to ensure there is no relapse. There are also those who do the very opposite and avoid such emptying of the bowels at the end like the plague, even if the fever has disappeared; instead, they use nature as their guide which rarely, if ever, ends a fever by emptying the bowels. Others recommend drinking abundant amounts of water in accordance with the Hippocratic oracle, "Water is not good nourishment for fire". Some physicians, called "psychophobes", fear the use of cold water in case the innate heat is suffocated and the cause of the disease is therefore exacerbated. Others are so intent on prescribing antidotes, which they call "cordials", to prevent, they say, any malignity if present but latent, as well as taming it. Others (perhaps the wiser ones), are extremely cautious regarding the use of cordials and only do so in moderation, to make sure they do not appear to be throwing oil on fire or spurning a galloping horse as it were.

This is neither the time nor place to discuss what these antidotes are actually able to do, whether Galenian or chemical, the use of which is so common in fevers of a suspicious nature, even if their true usefulness is not really clear. Let it suffice to quote the following line by Virgil:

...they can because they think they can.

However, neither the medical art nor those working in the medical field are to be blamed for these things occurring. Rather, it is the cruelty of the fever, that multi-form monster that all too often eludes our calculations that is to be blamed. Thus, far be it from me to scorn the dogmas and methods of the ancients as I know that according to Hippocrates that, "Many things can either be taught from the same thing with the same power or not"; However, I do have to criticise and disapprove of modern writers because after having refused the opinions of the ancients, they have been unable to come to any understanding. From this one can deduce that we are no longer guided by blind persuasion and are trampling on the
footprints of our predecessors like beasts but that we are struggling in the midst of our search for the truth. It must also be taken into consideration that once the fascination of authority has begun to wane, and it was only right to distance oneself slightly, everybody should make public his thoughts and attempt to bring this monster out of its hiding place and into the open where it can be tamed.

This is why, today, the freedom of philosophizing and thinking can never be recommended enough.

Freedom, however, that turned to watch the idle all too late.

Indeed, there is hope that in the end, it will become clear to the countless numbers of those studying in the field.

Having thus completed the study of such an abstruse subject, it would appear that our fortune took a turn for the better just after Peruvian bark was imported in Europe together with other foreign goods. It truly appears to be the prince of all anti-pyretics ever devised by the ancients and the diligence of all chemical products. The unique effect of this remedy, that is most effective in periodical fevers, has given us the advantage that we can not only observe a real difference between intermittent and continuous fevers, but also in their heat. And we no longer use just one remedy to treat all fevers, whether gastric or venous, that is, with the constant use of coolants and humectants, repeated blood-letting or purgatives that weaken the human body rather than strengthening it. Instead, only those fevers that belong to the intermittent family are treated with a small amount of powder dissolved in wine and they disappear, slow down or are eliminated radically.

Certainly, once the use of this remedy became known, prior to the administration of suitable purgatives, it began to be used not just once, as had initially been the case, but for days on end, until the febrile miasma had been radically eradicated. It should also be admitted that in the doctrine of fevers, this kind of treatment resulted in the same behaviour that had been observed in the military field just after the discovery of gun powder – catapults and rams were abandoned and gun powder was regarded as the only means of attack, placed in underground tunnels and then lit, resulting in ramparts being razed to the ground in an instant, and besieged cities being forced to surrender; thus, with the arrival of quinine
powder the most tenacious fevers surrendered and countless pharmaceutical aids were abandoned.

I shall not continue with the praise of this divine remedy since it manages to do so alone; however, I would like to prophesise that one day the admirable virtues of this bark will be able to eradicate the nature of fevers completely. Indeed, every now and then chemists decide to analyse this famous antipyretic and botanists zealously devote themselves to trying to find a similar plant with the same characteristics in the plant kingdom in our country so that we no longer have to seek remedies so far away. And if the gods were to show the mercy they usually do towards the affairs of mortals and another, even stronger antipyretic were to be found, one that is just as good at curing other fevers such as synochus and continuous fevers as Peruvian bark is at curing periodical fevers, we would have what Hippocrates once hoped, that is, that “Objective and task of science is to discover the unknown, the discovery of which is preferable to remaining hidden”.

While we may now thank divine intervention and not art or diligence that we now have this Peruvian antipyretic, we still do not know exactly what fevers actually are; neither do we know what this remedy is actually supplying our bodies with, and why it sometimes blocks and alleviates intermittent fevers while at other times it eliminates them completely: it would therefore be of great comfort to us mortals if we had a similar aid we could use in our fight, albeit blindly, just like the gladiators who fight blindly, against the continuous fevers that are threatening us with death, since the same can be said of nearly all the remedies offered by the art of medicine, that is, we can imagine what they are doing or how they actually work once they enter our bodies to our hearts’ content, but we cannot truly understand their nature and how they fight the illness and the causes of disease.

Thus, this year the task we shall devote ourselves to is summarising what has been written by the ancients and moderns on this subject, that is, the theory of fevers and how they should be treated. Indeed, the fruit to be reaped from such divergent opinions is that one must proceed with the greatest caution when dealing with such a wily enemy, the character of which is still not clear despite countless attempts by the luminaries of medicine.
The art of medicine is similar to navigation

This is now the fourth time I have ascended this highly revered lectern, noble listeners, after having exhaustingly beaten a serious disease with the support of divine clemency, and may this be a good omen. The oracles of many learned men, including the renowned Santorio, have flowed out from here, as from the Delphic tripod. I wish to heaven that I may fully complete those six years to which I am committed before the illustrious senate of Venice, and at the end formalise my retirement from professional life. If I turn my mind to the difficulties of these times that, in the midst of the clamour of arms rumbling around us and by which we are almost besieged, do not allow lovers of letters to freely devote themselves to their studies, I recognise that I have been exposed to a fairly arduous task and an excessively long voyage. Far be it from me, however, to lose courage; on the contrary, I will work with every effort and hasten, “by oar and by sail” as the saying goes, to arrive safely in port. And not entirely in error, I think, have I defined this medical discourse, which has lasted three whole years and now reached half its course, as a voyage. Indeed, if we observe both theory and practice, the difficulty and greatness of the medical art is such that pursuing it is exactly like advancing in a large and treacherous sea, full of shipwrecks, which is even more frightening and larger when, in the absence of winds, it is the calm that pervades. He who has spent his life in the practice of medicine knows this well. Indeed, there is not a master who is so intelligent, so expert that he can be sure of obtaining success, and who at times, not without exposing the lives of others and his own life to serious
danger (I mean his own fame and honour, which are the real life of a man), has not come up against the most terrible shipwrecks, even when close to port.

It is undoubtedly thus, noble listeners. There is such an affinity between the nautical and medical arts that, if we consider their birth, their progress and the continuity with which they proceed in their task, one art is like the original and model of the other and both seem generated by the same mother for the advantage of life. I would therefore like to show how the ability of the physician is very similar to that of the navigator, to the point that the wise and intelligent physician must administer the province that he has taken on with the same laws and almost with the same control as the expert sailor. I think that this will be a subject not lacking in curiosity and not entirely fruitless, especially for the young devoted to study, at least to this purpose: that in dealing with such a sacred thing he should adopt the utmost prudence and circumspection, and carefully observe individual incidents, even the most insignificant, because, not unlike big storms at sea, the signs and onset of serious diseases are usually insignificant and uncertain.

You certainly equally well know with how much finesse the great Hippocrates, father and master of the medical discipline, who among physicians was what Tiphys was to the Argonauts, wrote in his book on ancient medicine that most physicians make the same error as inexperienced navigators: "in truth", he says, "those who make an error when steering a ship on a calm sea pass unobserved; but if a big wind and storm surprises them, then it becomes apparent to all that they have lost the ship because of their ignorance and mistakes". On the basis of the authority of the divine teacher, may I be permitted to proclaim that the medical art is a relative of the nautical art; and in truth, if we reflect well, we will easily find that the physician and the expert sailor must necessarily have more or less the same abilities and knowledge. It is both fitting and necessary that the captain of a ship pays attention to philosophy. I would not want this to mean the philosophy that eats up the intelligence on futile problems and debates rather than sharpening it, but the genuine philosophy they call experimental and which began to be taught in the most famous athenaeums. This is because it carries forward the torch and leads to the exploration and attainment of truth. Similarly, it is known to all that he must also be fully instruct-
ed in the mathematical disciplines (such as geometry, geography, astronomy, hydrostatics and especially mechanics).

We may think, and it is an undoubted supposition, that Christopher Columbus went forward to open the locks of the ocean armed with these aids, and showed in practice that the antipodes are a reality, not a fiction (such that among the general hilarity, the royal palaces, which he had asked to support this great undertaking, thought him mad) and, leaving the ultima Thule behind, fulfilled the predictions of the tragic poet. Indeed, how could a commander who was completely ignorant of physics and mathematics, who did not know about the structure of the cosmos, the position of the lands and different regions, the rise of the stars and the setting of the sun, on which the great changes of season depend, and who did not know how to indicate where the quicksands, the rocks marked by shipwrecks and the other perils of the ocean are hidden, have promised a safe voyage?

So no right-thinking mind will pretend not to know that the physician must be educated in the same way. I leave aside poly-mathy, or broad erudition, which is rather a grand ornament of the medical art. I am the first to recognise that this is not necessary for the physician, because I do not ignore the fact that the work of the master of the silent art (medicine was once called this by the prince of poets), consists in what he does and not what he says. Indeed, provided “he is familiar with the remedies identified by practice”, as Celsus says in his introduction, and even if lacking in eloquence, “he will be a much greater physician than one who exercises his tongue ignoring practice”. But it is more than certain that philosophy is necessary to the physician. For what reason, indeed, should the physician be known to the people as minister and guide of nature who works righteously, if he has not explored the innermost parts of nature under the guidance of philosophy? Hippocrates, the greatest of physicians, once wrote that philosophy imprints something of the divine in the physician, or rather: “the philosopher physician is similar to God: in truth there is not much difference between them”.

It may also be claimed no less that knowledge of mathematics mentioned above is practically essential in training the true physician, to form not so much the genius of the century, as the criteria of reason. If anyone does not agree, I would appeal to Hippocrates,
that extremely righteous judge who, in the words of the celebrated
eulogy of Macrobius, was “incapable of deceiving and of being
deceived”. He wrote thus in a letter to his son Thessalo, referring
to geometry: “apply much diligence, my son, to the study of
geometry: indeed, knowledge of geometry, which is uniform and
resolves everything with demonstrations, is useful for the position­
ing of the bones, dislocations and the ordered arrangement of the
limbs”. Similarly, he showed that astronomy contributes consider­
ably to the medical art; or rather, at times he uses mathematical
terms like *momentum*, which is the word most frequently used by
physicians to indicate the thrust of the spirit that produces energy,
the driving force of the fibres and the resistance of other bodies.
So he who constantly meditates on the teachings of the mathemati­
cans and knows how to take from these the ones most useful to
the medical art will enrich himself not only with an aid but also
uncommon dignity.

But someone may object that a physician is not educated by
books, nor by the fragile postulates of the mathematicians, but by
practice, experience and the continuous examination of the sick.
Certainly, I also openly declare that the true physician is not made
by simply reading books, on whatever subject, medicine included,
and that the famous saying “*nauta ex libro*” also applies to those
who have drawn medicine from the teachings of writers. It is well
known that Cornelius Celsus (who was known as the Latin Hippoc­
rates) wrote perfectly on medical subjects, despite never having
practised medicine (though Rubeus, his commentator, thought dif­
ferently), given that that dignified Roman did not think it a proper
thing to lay hands on the sick. Nevertheless, it is as clear as the sun
that that physician, who united the above mentioned skills with
practice and experience, raised his head above all others like a gi­
ant among dwarves or a cypress amid shrubs.

Happy is he who has managed to recognise the causes of ills
and every motion.

May I be permitted here to make use of the famous Virgilian say­
ing, making a parody of it, that is, altering it a little. But who could
excel with greater success than that physician who has philosophy
and mathematics at his side like faithful friends? And to make the