

## DIVERSION

# Statistical inquiries into the efficacy of prayer\*

Francis Galton

An eminent authority has recently published a challenge to test the efficacy of prayer by actual experiment. I have been induced, through reading this, to prepare the following memoir for publication, nearly the whole of which I wrote and laid by many years ago, after completing a large collection of data, which I had undertaken for the satisfaction of my own conscience.

The efficacy of prayer seems to me a simple, as it is a perfectly appropriate and legitimate subject of scientific inquiry. Whether prayer is efficacious or not, in any given sense, is a matter of fact on which each man must form an opinion for himself. His decision will be based on data more or less justly handled, according to his education and habits. An unscientific reasoner will be guided by a confused recollection of crude experience. A scientific reasoner will scrutinize each separate experience before he admits it as evidence, and will compare all the cases he has selected on a methodical system.

The doctrine commonly preached by the clergy is well expressed in the most recent, and by far the most temperate and learned of theological encyclopaedias, namely, Smith's Dictionary of the Bible. The article on 'Prayer', written by the Rev. Dr Barry, states as follows: 'Its real objective efficacy... is both implied and expressed (in Scripture) in the plainest terms... We are encouraged to ask special blessings, both spiritual and temporal, in hopes that thus, and thus only, we may obtain them... It would seem the intention of Holy Scripture to encourage all prayer, more especially intercession, in all relations and for all righteous objects'. Dr Hook, the present Dean of Chichester, states in his Church Dictionary, under 'Prayer', that 'the general providence of God acts through what are called the laws of nature. By this particular providence God interferes with those laws, and he has promised to interfere in behalf of those who pray in the name of Jesus... We may take it as a general rule that we may pray for that for which we may lawfully labour, and for that only'.

The phrases of our Church service amply countenance this view; and if we look to the practice of the opposed sections of the religious world, we find them consistent in maintaining it. The so-called 'Low Church' notoriously places absolute belief in special

providences accorded to pious prayer. This is testified by the biographies of its members, the journals of its missionaries and the 'united prayer meetings' of the present day. The Roman Catholics offer religious vows to avert danger; they make pilgrimages to shrines; they hang votive offerings and pictorial representations, sometimes by thousands, in their churches, of fatal accidents averted by the manifest interference of a solicited saint.

A *prima facie* argument in favour of the efficacy of prayer is therefore to be drawn from the very general use of it. The greater part of mankind, during all the historic ages, has been accustomed to pray for temporal advantages. How vain, it may be urged, must be the reasoning that ventures to oppose this mighty consensus of belief! Not so. The argument of universality either proves too much, or else it is suicidal. It either compels us to admit that the prayers of Pagans, of Fetish worshippers and of Buddhists who turn praying wheels, are recompensed in the same way as those of orthodox believers; or else the general consensus proves that it has no better foundation than the universal tendency of man to gross credulity.

The collapse of the argument of universality leaves us solely concerned with a simple statistical question—are prayers answered, or are they not? There are two lines of research, by either of which we may pursue this inquiry. The one that promises the most trustworthy results is to examine large classes of cases, and to be guided by broad averages; the other, which I will not employ in these pages, is to deal with isolated instances. An author who made much use of the latter method might reasonably suspect his own judgment—he would certainly run the risk of being suspected by others—in choosing one-sided examples.

The principles are broad and simple on which our inquiry into the efficacy of prayer must be established. We must gather cases for statistical comparison, in which the same object is keenly pursued by two classes similar in their physical but opposite in their spiritual state; the one class being prayerful, the other materialistic. Prudent pious people must be compared with prudent materialistic people, and not with the imprudent or the vicious. Secondly, we have no regard, in this inquiry, to the course by which the answer to prayers may be supposed to operate. We simply look to the final result—whether those who pray attain their objects more frequently than those who do not pray, but who live in all other respects

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under similar conditions. Let us now apply our principles to different cases.

A rapid recovery from disease may be conceived to depend on many causes besides the reparative power of the patient's constitution. A miraculous quelling of the disease may be one of these causes; another is the skill of the physician, or of the nurse; another is the care that the patient takes of himself. In our inquiry, whether prayerful people recover more rapidly than others under similar circumstances, we need not complicate the question by endeavouring to learn the channel through which the patient's prayer may have reached its fulfillment. It is foreign to our present purpose to ask if there be any signs of a miraculous quelling of the disease, or if, through the grace of God, the physician had showed unusual wisdom, or the nurse or the patient unusual discretion. We simply look to the main issue—do sick persons who pray, or are prayed for, recover on the average more rapidly than others?

It appears that, in all countries and in all creeds, the priests urge the patient to pray for his own recovery, and the patient's friends to aid him with their prayers; but that the doctors make no account whatever of their spiritual agencies, unless the office of priest and medical man be combined in the same individual. The medical works of modern Europe teem with records of individual illnesses and of broad averages of disease, but I have been able to discover hardly any instance in which a medical man of any repute has attributed recovery to the influence of prayer. There is not a single instance, to my knowledge, in which papers read before statistical societies have recognized the agency of prayer either on disease or on anything else. The universal habit of the scientific world to ignore the agency of prayer is an important fact. To fully appreciate the 'eloquence of the silence' of medical men, we must bear in mind the care with which they endeavour to assign a sanatory value to every influence. Had prayers for the sick any notable effect, it is incredible but that the doctors, who are always on the watch for such things, should have observed it, and added their influence to that of the priests towards obtaining them for every sick man. If they abstain from doing so, it is not because their attention has never been awakened to the possible efficacy of prayer, but, on the contrary, that although they have heard it insisted on from childhood upwards, they are unable to detect its influence. Most people have some general belief in the objective efficacy of prayer, but none seem willing to admit its action in those special cases of which they have scientific cognizance.

Those who may wish to pursue these inquiries on the effect of prayers for the restoration of health could obtain abundant materials from hospital cases, and in a different way from that proposed in the challenge to which I referred at the beginning of these pages. There are many common maladies

whose course is so thoroughly well understood as to admit of accurate tables of probability being constructed for their duration and result. Such are fractures and amputations. Now it would be perfectly practicable to select, out of the patients at different hospitals under treatment for fractures and amputations, two considerable groups; the one consisting of markedly religious and piously befriended individuals, the other of those who were remarkably cold-hearted and neglected. An honest comparison of their respective periods of treatment and the results would manifest a distinct proof of the efficacy of prayer, if it existed to even a minute fraction of the amount that religious teachers exhort us to believe.

An inquiry of a somewhat similar nature may be made into the longevity of persons whose lives are prayed for, also that of the praying classes generally, and in both these cases, we can easily obtain statistical facts. The public prayer for the sovereign of every state, Protestant and Catholic, is and has been in the spirit of our own, 'Grant her in health long to live'. Now, as a simple matter of fact, has this prayer any efficacy? There is a memoir by Dr Guy, in the *Journal of the Statistical Society* (vol. xxii, p. 355), in which he compares the mean age of sovereigns with that of other classes of persons. His results are expressed in the following table:-

**Table 1** Mean age attained by males of various classes who had survived their 30th year, from 1758 to 1843. Deaths by accident or violence are excluded

	Number	Average	Eminent men*
Members of royal houses	97	64.04	—
Clergy	945	69.49	66.42
Lawyers	294	68.14	66.51
Medical profession	244	67.31	67.07
English aristocracy	1179	67.31	—
Gentry	1632	70.22	—
Trade and commerce	513	68.74	—
Officers in the Royal Navy	366	68.40	—
English literature and science	395	67.55	65.22
Officers of the army	569	67.07	—
Fine arts	239	65.96	64.74

\*The eminent men are those whose lives are recorded in Chalmers's *Biography*, with some additions from the *Annual Register*.

The sovereigns are literally the shortest lived of all who have the advantage of affluence. The prayer has therefore no efficacy, unless the very questionable hypothesis be raised, that the conditions of royal life may naturally be yet more fatal, and that their influence is partly, though incompletely, neutralized by the effects of public prayers.

It will be seen that the same table collates the longevity of clergy, lawyers and medical men. We are justified in considering the clergy to be a far more prayerful class than either of the other two. It is their profession to pray, and they have the practice of offering morning and evening family prayers in addition to their private devotions. A reference to any of the numerous published collections of family prayers will show that they are full of petitions for temporal benefits. We do not, however, find that the clergy are in any way more long lived in consequence. It is true that the clergy, as a whole, show a life-value of 69.49, as against 68.14 for the lawyers, and 67.31 for the medical men; but the easy country life and family repose of so many of the clergy are obvious sanatory conditions in their favour. This difference is reversed when the comparison is made between distinguished members of the three classes—that is to say, between persons of sufficient note to have had their lives recorded in a biographical dictionary. When we examine this category, the value of life among the clergy, lawyers and medical men is as 66.42, 66.51 and 67.07, respectively, the clergy being the shortest lived of the three. Hence, the prayers of the clergy for protection against the perils and dangers of the night, for protection during the day and for recovery from sickness, appear to be futile in result.

In my work on *Hereditary Genius*, and in the chapter on 'Divines', I have worked out the subject with some minuteness on other data, but with precisely the same result. I show that the divines are not specially favoured in those worldly matters for which they naturally pray, but rather the contrary, a fact which I ascribe in part to their having, as a class, indifferent constitutional vigour. I give abundant reason for all this, and do not care to repeat myself; but I should be glad if such of the readers of this present article who may be accustomed to statistics would refer to the chapter I have mentioned. They will find it of use in confirming what I say here. They will believe me the more when I say that I have taken considerable pains to get at the truth in the questions raised in this present memoir, and that when I was engaged on them, I worked, so far as my material went, with as much care as I gave to that chapter on 'Divines'; and lastly, they will understand that, when writing the chapter in question, I had all this material by me unused, which justified me in speaking out as decidedly as I did then.

A further inquiry may be made into the duration of life among missionaries. We should lay greater stress on their mortality than on that of the clergy because the laudable object of a missionary's career is rendered almost nugatory by his early death. A man goes, say to a tropical climate, in the prime of manhood, who has the probability of many years of useful life before him, had he remained at home. He has the certainty of being able to accomplish sterling good as a missionary, if he should live long enough to learn

the language and habits of the country. In the interval, he is almost useless. Yet, the painful experience of many years shows only too clearly that the missionary is not supernaturally endowed with health. He does not live longer than other people. One missionary after another dies shortly after his arrival. The work that lay almost within the grasp of each of them lingers incomplete.

It must here be repeated that comparative immunity from disease compels the suspension of no purely material law, if such an expression be permitted. Tropical fever, for example, is due to many subtle causes which are partly under man's control. A single hour's exposure to sun, or wet, or fatigue, or mental agitation, will determine an attack. Now even if God acted only on the minds of the missionaries, his action might be as much to the advantage of their health as if he wrought a physical miracle. He could disincline them to take those courses which might result in mischance, such as the forced march, the wetting, the abstinence from food or the night exposure, any one of which was competent to develop the fever that struck them down. We must not dwell on the circumstances of individual cases, and say 'this was a providential escape', or 'that was a salutary chastisement', but we must take the broad averages of mortality, and, when we do so, we find that the missionaries do not form a favoured class.

The efficacy of prayer may yet further be tested by inquiry into the proportion of deaths at the time of birth among the children of the praying and the non-praying classes. The solicitude of parents is so powerfully directed towards the safety of their expected offspring as to leave no room to doubt that pious parents pray fervently for it, especially as death before baptism is considered a most serious evil by many Christians. However, the distribution of stillbirths appears wholly unaffected by piety. The proportion, for instance, of the stillbirths published in the *Record* newspaper and in *The Times* was found by me, on an examination of a particular period, to bear an identical relation to the total number of deaths. This inquiry might easily be pursued by those who consider that more ample evidence was required.

When we pray in our liturgy 'that the nobility may be endued with grace, wisdom and understanding', we pray for that which is clearly incompatible with insanity. Does that frightful scourge spare our nobility? Does it spare very religious people more than others? The answer is an emphatic negative to both of these questions; the nobility, probably from their want of the wholesome restraints felt in humbler walks of life, and from their intermarriages, and the very religious people of all denominations, probably from their meditations on hell, are peculiarly subject to it. Religious madness is very common indeed.

As I have already hinted, I do not propose any special inquiry whether the general laws of physical nature are ever suspended in fulfilment of prayer:

whether, for instance, success has attended the occasional prayers in the liturgy when they have been used for rain, for fair weather, for the stilling of the sea in a storm or for the abatement of a pestilence. I abstain from doing so for two reasons.

First, if it is proved that God does not answer one large class of prayers at all, it would be of less importance to pursue the inquiry. Secondly, the modern feeling of this country is so opposed to a belief in the occasional suspension of the general laws of nature that an English reader would merely smile at such an investigation.

If we are satisfied that the actions of man are not influenced by prayer, even through the subtle influences of his thoughts and will, the only probable form of agency will have been disproved, and no one would care to advance a claim in favour of direct physical interferences.

Biographies do not show that devotional influences have clustered in any remarkable degree round the youth of those who, whether by their talents or social position, have left a mark on our English history. Lord Campbell, in his preface to his *Lives of the Chancellors*, says, 'There is no office in the history of any nation that has been filled with such a long succession of distinguished and interesting men as the office of Lord Chancellor', and that 'Generally speaking, the most eminent men, if not the most virtuous, have been selected to adorn it'. His implied disparagement of their piety is fully sustained by an examination of their respective biographies, and by a taunt of Horace Walpole, quoted in the same preface. An equal absence of remarkable devotional tendencies may be observed in the lives of the leaders of great political parties. The founders of our great families too often owed their advancement to tricky and time-serving courtiership. The belief, so frequently expressed in the *Psalms*, that the descendants of the righteous shall continue, and that those of the wicked shall surely fail, is not fulfilled in the history of our English peerage. Take for instance the highest class, that of the ducal houses. The influence of social position in this country is so enormous that the possession of a dukedom is a power that can hardly be understood without some sort of calculation. There are, I believe, only 27 dukes to about eight millions of adult male Englishmen, or about three dukes to each million; yet, the cabinet of 14 ministers that governs this country, and India too, commonly contains one duke, often two, and in recent times three. The political privilege inherited with a dukedom in this country is at the lowest estimate many thousand-fold above the average birthright of Englishmen. What was the origin of these ducal families whose influence on the destiny of England and her dependencies is so enormous? Were their founders the eminently devout children of eminently pious parents? Have they and their ancestors been distinguished among the praying classes? Not so.

I give below<sup>1</sup> a list of their names, which recalls many a deed of patriotism, valour and skill, many an instance of eminent merit of the worldly sort, which we Englishmen honour 6 days out of the 7—many scandals, many a disgrace, but not, on the other hand, a single instance known to me of eminently prayerful qualities. Four at least of the existing ducal houses are unable to claim the title of having been raised into existence through the devout habits of their progenitors because the families of Buccleuch, Grafton, St Albans and Richmond were thus highly ennobled solely on the ground of their being descended from Charles II and four of his mistresses, namely, Lucy Walters, Barbara Villiers, Nell Gwynne and Louise de Querouaille. The dukedom of Cleveland may almost be reckoned as a fifth instance.

The civil liberty we enjoy in England, and the energy of our race, have given rise to a number of institutions, societies, commercial adventures, political meetings and combinations of all sorts. Some of these are exclusively clerical, some lay and others mixed. It is impossible for a person to have taken an active share in social life without having had abundant means of estimating for himself, and of hearing the opinion of others, on the value of a preponderating clerical element in business committees. For my own part, I never heard a favourable one. The procedure of Convocation, which, like all exclusively clerical meetings, is opened with prayer, has not inspired the outer world with much respect. The histories of the great councils of the Church are most painful to read. There is reason to expect that devout and superstitious men should be unreasonable; for a person who believes his thoughts to be inspired, necessarily accredits his prejudices with divine authority. He is therefore little accessible to argument, and he is intolerant of those whose opinions differ from his, especially on first principles. Consequently, he is a bad co-adjutor in business matters. It is a common weekday opinion of the world that praying people are not practical.

Again, there is a large class of instances where an enterprise on behalf of pious people is executed by the agency of the profane. Do such enterprises prosper beyond the average? For instance, a vessel on a missionary errand is navigated by ordinary seamen. A fleet, followed by the prayers of the English nation, carries reinforcements to quell an Indian mutiny. We do not care to ask whether the result of these prayers is to obtain favourable winds, but simply whether they ensue in a propitious voyage, whatever may be the agencies by which that result was obtained. The success of voyages might be because of many other agencies than the suspension of the physical laws that

<sup>1</sup> Abercorn, Argyll, Athole, Beaufort, Bedford, Buccleuch, Buckingham, Cleveland, Devonshire, Grafton, Hamilton, Leeds, Leinster, Manchester, Marlborough, Montrose, Newcastle, Norfolk, Northumberland, Portland, Richmond, Roxburgh, Rutland, St. Albans, Somerset, Sutherland, Wellington.

control the winds and currents, just as we showed that a rapid recovery from illness might be due to other causes than direct interference with cosmic order. It might have been put into the captain's heart to navigate in that course and to perform those acts of seamanship which proved links in a chain that led to eventual success. A very small matter would suffice to make a great difference in the end. A vessel navigated by a man who was a good forecaster of weather and an accomplished hydrographer would considerably outstrip another that was deficient in so accomplished a commander, but otherwise similarly equipped. The perfectly instructed navigator would deviate from the most direct course by perhaps some mere trifle, first here, then there, to bring his vessel within favouring slants of wind and advantageous currents. A ship commanded by a captain and steered by a sailor whose hearts were miraculously acted on in answer to prayer would unconsciously, as by instinct, or even as it were by mistake, perform these deviations from routine, which would lead to ultimate success.

The missionaries who are the most earnestly prayed for are usually those who sail on routes where there is little traffic, and therefore where there is more opportunity for the effects of secret providential overruling to display themselves than among those who sail in ordinary sea voyages. In the usual sea routes, a great deal is known of the peculiarities of the seasons and currents, and of the whereabouts of hidden dangers of all kinds; their average risk is small, and the insurance is low. But when vessels are bound to ports like those sought by the missionaries, the case is different. The risk that attends their voyages is largely increased, and the insurance is proportionately raised. But is the risk equally increased in respect to missionary vessels and to those of traders and slave-dealers? The comparison between the fortune that attends prayerful and non-prayerful people may here be most happily made. The missionaries are eminently among the former category, and the slave-dealers and traders we speak of in the other. Traders in the unhealthy and barbarous regions to which we refer are notoriously the most godless and reckless (on the broad average) of any of their set. We have, unfortunately, little knowledge of the sea risks of slavers because the rates of their insurance involve the risk of capture. There is, however, a universal testimony, in the parliamentary reports on slavery, to the excellent and skilful manner in which these vessels are sailed and navigated, which is a *prima facie* reason for believing their sea risks to be small. As to the relative risks run by ordinary traders and missionary vessels, the insurance offices absolutely ignore the slightest difference between them. They look to the class of the vessel, and to the station to which she is bound, and to nothing else. The notion that a missionary or other pious enterprise carries any immunity from danger has never been entertained by insurance companies.

To proceed with our inquiry, whether enterprises on behalf of pious people succeed better than others when they are entrusted to profane hands, we may ask: is a bank or other commercial undertaking more secure when devout men are among its shareholders, or when the funds of pious people, or charities or of religious bodies are deposited in its keeping, or when its proceedings are opened with prayer, as was the case with the disastrous Royal British Bank? It is impossible to say yes. There are far too many sad experiences of the contrary.

If prayerful habits had influence on temporal success, it is very probable, as we must again repeat, that insurance offices, of at least some descriptions, would long ago have discovered and made allowance for it. It would be most unwise, from a business point of view, to allow the devout, supposing their greater longevity even probable, to obtain annuities at the same low rates as the profane. Before insurance offices accept a life, they make confidential inquiries into the antecedents of the applicant. But such a question has never been heard of as, 'Does he habitually use family prayers and private devotions?' Insurance offices, so wakeful to sanatory influences, absolutely ignore prayer as one of them. The same is true for insurances of all descriptions, as those connected with fire, ships, lightning, hail, accidental death and cattle sickness. How is it possible to explain why Quakers, who are most devout and most shrewd men of business, have ignored these considerations, except on the ground that they do not really believe in what they and others freely assert about the efficacy of prayer? It was at one time considered an act of mistrust in an over-ruling Providence to put lightning conductors on churches; for it was said that God would surely take care of his own. But Arago's collection of the accidents from lightning showed they were sorely needed, and now lightning conductors are universal. Other kinds of accidents befall churches, equally with other buildings of the same class, such as architectural flaws, resulting in great expenses for repair, fires, earthquakes and avalanches.

The cogency of all these arguments is materially increased by the recollection that many items of ancient faith have been successively abandoned by the Christian world to the domain of recognized superstition. It is not two centuries ago, long subsequent to the days of Shakespeare and other great names, that the sovereign of this country was accustomed to lay hands on the sick for their recovery, under the sanction of a regular church service, which was not omitted from our prayer books till the time of George II. Witches were unanimously believed in, were regularly exorcised and punished by law, up to the beginning of the past century. Ordeals and duels, most reasonable solutions of complicated difficulties according to the popular theory of religion, were found absolutely fallacious in practice. The miraculous power of relics and images, still so general in

Southern Europe, is scouted in England. The importance ascribed to dreams, the barely extinct claims of astrology, and auguries of good or evil luck and many other well-known products of superstition that are found to exist in every country, have ceased to be believed in by us. This is the natural course of events, just as the Waters of Jealousy and the Urim and Thummin of the Mosaic Law had become obsolete in the times of the later Jewish kings. The civilized world has already yielded an enormous amount of honest conviction to the inexorable requirements of solid fact, and it seems to me clear that all belief in the efficacy of prayer, in the sense in which I have been considering it, must be yielded also. The evidence I have been able to collect bears wholly and solely in that direction, and in the face of it the *onus probandi* lies henceforth on the other side.

Nothing that I have said negatives the fact that the mind may be relieved by the utterance of prayer. The impulse to pour out the feelings in sound is not peculiar to Man. Any mother that has lost her young, and wanders about moaning and looking piteously for sympathy, possesses much of that which prompts men to pray in articulate words. There is a yearning of the heart, a craving for help, it knows not where, certainly from no source that it sees. Of a similar kind is the bitter cry of the hare, when the greyhound is almost on her; she abandons hope through her own efforts, and screams—but to whom? It is a voice convulsively sent out into space, whose utterance is a physical relief. These feelings of distress and of terror are simple, and an inarticulate cry suffices to give vent to them; but the reason why Man is not satisfied by uttering inarticulate cries (though sometimes they are felt to be the most appropriate) is

owing to his superior intellectual powers. His memory travels back through interlacing paths and dwells on various connected incidents; his emotions are complex, and he prays at length.

Neither does anything I have said profess to throw light on the question of how far it is possible for Man to commune in his heart with God. We know that many persons of high intellectual gifts and critical minds look on it as an axiomatic certainty that they possess this power, although it is impossible for them to establish any satisfactory criterion to distinguish between what may really be borne in on them from without and what arises from within, but which, through a sham of the imagination, appears to be external. A confident sense of communion with God must necessarily rejoice and strengthen the heart, and divert it from petty cares, and it is equally certain that similar benefits are not excluded from those who on conscientious grounds are sceptical as to the reality of a power of communion. These can dwell on the undoubted fact, that there exists a solidarity between themselves and what surrounds them, through the endless reactions of physical laws, among which the hereditary influences are to be included. They know that they are descended from an endless past, that they have a brotherhood with all that is, and have each his own share of responsibility in the parentage of an endless future. The effort to familiarize the imagination with this great idea has much in common with the effort of communing with a God, and its reaction on the mind of the thinker is in many important respects the same. It may not equally rejoice the heart, but it is quite as powerful in ennobling the resolves, and it is found to give serenity during the trials of life and in the shadow of approaching death.