

The Relevance of Christianity in an Age of Science*

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I feel in some ways that you could scarcely have chosen a less competent speaker, for as a theoretical physicist you have asked me to speak to a professional group whose subject I am utterly incompetent to discuss and to make things worse I have chosen to discuss a topic that I am theologically ill-equipped to discuss. There is clearly a grave problem of communication that we shall have to face together.

I have accepted your invitation to address you on the topic of "The Relevance of Christianity in an Age of Science" because I feel there is an urgent need to come to grips with what I regard as one of the pressing problems of our day, the development of an effective dialogue between science and Christianity.

The Growth of Science

It has become almost a trite expression to say that we are living in an Age of Science. Our daily lives are dominated by the products of scientific discovery whether we like it or not. The rate of discovery in all fields of science is growing every day. New sciences are coming into vogue which were unheard of even 10 years ago. Ninety per cent of the scientists that have ever lived are alive today.

The growth of scientific publications has reached prodigious proportions. Those of us who are physicists must contend, for example, with the *Physical Review Journal* which is now a 350-page weekly, but one of a multitude of physics journals. It is no longer possible to keep abreast of developments in even very restricted areas of a particular discipline.

We are indeed living in an age of ultra-specialisation and yet in a sense our problem is not unique to this age for I recall the Greek historian Herodotus writing of the Egyptians in 450 BC: "The practice of medicine they split up into separate parts, each doctor being responsible for the treatment of only one disease. There are in consequence innumerable doctors, some specialising in diseases of the eyes, others of the head, others of the teeth, others of the stomach and so on; while others again, deal with the sort of troubles which cannot be exactly localised".

The accelerated growth of science has resulted in an almost complete breakdown of communication between scientists working in even different areas of the same discipline. Accompanying the many discoveries of modern science has been the growing, and I believe mistaken, belief that scientific knowledge is of a different nature to all other knowledge and that the scientific viewpoint is the only world view worthy of discussion. As a result there has been an almost complete divorce between science and Christianity. Both Christians and scientists must accept the blame for this situation. I feel most strongly that there is an urgent need for a reconciliation between science and Christianity which will be to their mutual advantage. I do not believe that the pathway to reconciliation lies in a problematic approach to science and Christianity but rather in a deeper understanding of science and Christianity.

The Role of the Person in Science and Christianity

To develop the subject of our discussion fully would require several talks and I propose to simply sketch one aspect of the pathway to reconciliation. In particular I shall discuss the process of becoming a scientist and compare it with becoming a Christian. I believe that there are profound similarities for both involve the personality of the participant in a most intimate, and all too frequently overlooked, manner. The myth of impersonal scientific objectivity has persisted for far too long. The development of science cannot be discussed apart from the personal participation of the scientist himself. Science is far more than a collection of facts.

I shall for the sake of our discussion call our scientist a physicist, though he could be placed in any other field just as readily.

The Community of Science

How do you become a physicist? To become a physicist you must first enter the community of physicists; until you have made this step you cannot know of, or experience, the truth of physics. The concept of the community is, I believe, vital to the understanding of science and Christianity. Entry into the community of physicists is a personal decision which can only be made as an act of faith for prior to entry you do not possess the knowledge to comprehend the truths of physics. Entry into the community requires personal sacrifices and considerable self-discipline. But entry into the community is utterly essential for you cannot be a physicist and live in isolation from the community of physicists. The community is in a sense exclusive since the truths associated with the community can only be fully realised by its members. The profound difference between those of the community and those outside of it can only really be grasped to the fullest extent by the members themselves; to the outsider the life of the community remains forever a mystery.

Life in the community demands trust and confidence in the integrity of the other members. Without this the community would be rapidly dissipated.

c.f. J. D. Watson's
"The Double Helix"

Transformation Within the Community

Entry into the community of physicists involves a total transformation of the very being of the member because once he has entered he can never be the same again. He will see the universe in a new light that living outside of the community he could never have conceived of. He is indeed a new creature. The transformation within the community is a continuous process. Following entry there is continued growth and a deeper understanding of the truths of physics.

The Role of Faith in the Community

As I have said it requires a step of faith to enter the community. The need for faith does not end here, it is only the beginning. Continued growth in the community depends primarily upon the faith of the individual members. For example, to successfully complete a piece of research we must have faith in the outcome even before the conclusion is fully demonstrated.

A knowledge of the facts of physics alone is not sufficient. Contrary to the average man-in-the-street's view few facts are unambiguous. Every fact must be comprehended and its comprehension requires a world view. To understand the universe about us it is necessary to go beyond the facts and at every step personal decisions must be made. It is far more than just a question of laws of logic for there is frequently, if not usually, more than one way of interpreting a set of facts and the choice of the actual interpretation adopted by the community ultimately rests on value judgments. The subjects of these values judgments are more often than not the metaphysical concepts of beauty, order and elegance. For though many a modern scientist may abhor and deride metaphysics he is only able to proceed by metaphysical thought. The personality of the participating scientist can never be eliminated.

cf. observation of a new star - coordinate system - metric - measuring theory -

cf. Copernicus and Ptolemy

N.B. beauty and elegance -

The Ultimate must be self-authenticating

Doubts of the Community

Finality is never achieved in the community for doubts can arise about the very truths that exist in the community. No logical system having any richness can ever be complete nor can it be guaranteed to be consistent and thus in science while the partial truth may be attained the whole truth cannot.

Temptations of the Community

The community is not beyond temptation. Rather it is plagued at every corner by temptations that threaten the very foundations of the community. In an age of specialisation there comes the temptation to claim that the speciality of one's own community gives a total world view. Thus there are those who would claim All is physics, or All is chemistry, or All is biology, or All is DNA. These claims arise in every age and represent a one-sided view of the universe. They are the views of people who having seen a pitifully small portion of the universe think they can comprehend the total universe. They forget that there can be no universal description of nature in a single, closed, consistent language for there can be no language rich enough to describe the totality of the universe. Our most profound experiences remain inexpressible.

cf. Goldbach's theorem - undecidable statements - liars - uncertainty in science -

0,1,2,3 body problem

Cannot get out of ourselves - regardless of finite of infinite world.

Communication Within the Community

The life of the community is kept alive by communication between members of the community. With each new discovery comes the compelling urge to tell others of the community, to bring others into the richness of our new experience. Communication comes easily since, as members of the community, we speak the same language and yet our communication is never complete for we can never convey our total experience to even those within the community let alone those outside. We can only give an approximate expression within the confines of our language.

I was reminded of this vividly a couple of years ago while strolling down a small and very ancient street of Nazareth. I had my camera with me. I then realised what a pale and inadequate representation was given by a colour slide. No slide could match the personal experience of strolling down that street. What slide could capture the rhythmic noise of the metal workers, the tread of overburdened donkeys, the smells, etc? And yet all too often we mistake a partial view as the whole thing.

Communication Outside of the Community

The community faces special difficulties when it attempts to communicate its truths with those outside of the community. Having experienced the richness of life in the community there comes the compelling desire to tell others and yet this is our most profoundly difficult task. Those outside know little, if anything, of the language of the community and its concepts and ideas are to them almost inconceivable for they can really only know the truth by entering fully into the life of the community.

The Relevance of Christianity

I have tried to sketch for you, admittedly far too briefly, some of the problems of becoming and being a physicist. My primary points are:—

1. Scientific discovery is an intensely personal activity and cannot be effectively considered if it is divorced from the personal experience of the participant.
2. Contrary to popular notions the scientists cannot avoid making value judgments.
3. Scientific discovery takes place in a dedicated community and is both an individual and a communal experience.
4. The experience of becoming and being a scientist is not dissimilar from the experience of a Christian

Conferences — travel —
invisible colleges —
sentences never convey
our total meaning or
experience — machine
translation — "out of sight
— out of mind"

Our story of the scientist and the community in which he finds himself could equally as well have been told of the man who becomes a member of Christ's community. To each one of us the acceptance or rejection, of Christ's claims is a personal decision that only we can make. While I believe that Christ is the same today as yesterday we are not though our moral condition is unchanged. As a result the discovery of God, through the revelation of Christ, must be made again by each person in each and every generation. We are called to be new creatures and as the Apostle Paul said to the Romans "to be transformed by the renewing of our minds, that we may prove what is good, and acceptable, and perfect, will of God".

As a physicist living in the community of physicists I find my day-to-day life enriched by my personal experiences, and, likewise, as a Christian, and admittedly far from perfect, I find my Christian experiences to be of a remarkably similar nature. I do not find my life in the two communities incompatible but rather complementary and enriching. This is not to say there are never any conflicts, there will always be some and I must acknowledge that in both communities I am deeply ignorant for no matter how much I know, I still know only a small portion of the total. Ultimately we must, with humility, come in faith and not with just wisdom but with our confidence in the revelation of Christ.

The Christian gospel I find to be intensely relevant to the world in which I live. The Christian gospel provides a way of life that satisfies my inmost strivings and yet Christianity is more than a Way of Life for Christianity I have found is inseparable from the Person and Life of Christ and I find Christ to be indeed the Way, the Truth and the Life.

I do not find being a Christian a comfortable state of affairs. The Christian life makes tremendous demands on us which I believe without Christ would be impossible. We are challenged not only to draw nigh to God and know the Truth but also to practice the Christian life, a task which I do not find easy, and yet I believe that only in this way can I be truly human.

In a world that cries out for freedom and which is beset by problems I believe it is in Christ and His revelation we must have our hope, and it is in the context of the "Sermon on the Mount," we must face the world.

To conclude I would simply like to say once again that as a scientist, and as a Christian, I find life in both communities enriching, relevant and most compatible.