

# **Social History of Medicine in Colonial India**

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## **TUTORIAL 5 - Medical Research – Lessons from the Past - Part 2**

And in this regard, one temptation or genuine conundrum/question is the difficulty of forecasting. What field requires immediate attention or generally what is the immediate, visible, deliverable in any research? There is a concern that people are doing researches which are only producing mathematical models and papers, three papers per year but nothing coming out. They get promoted, they get money, they get all kinds of recognition but nothing happens on the ground. One answer to that question and that kind of stance is that research is research. The importance is to nurture that culture which itself means that you should not be too worried about immediate fruits. People who come to the research field itself otherwise wouldn't have come here - if they are worried about finding some immediate answers for immediate problems they would have gone as say software professionals or as engineers in some production centers and all that. Once you come to research, that is the mentality you should have - that we have to find out things and the usage is part of the findings that may not be immediately visible. That is another question - what are the usages - but research is unraveling the things that are hidden. We should have that kind of mentality to look at research as research and to be able to disassociate research from immediate deliverables. Every time you direct the telescope to the sky or the microscope on the slide, you don't ask 'okay what will be the immediate outcome, where will this lead to, where is the pot of gold at the end of this rainbow'. In most cases, the deliverables may not be seen immediately - as they say: time will tell. For instance, what is the great immediate benefit you get by finding out the reason for why the sky is blue - which Raman did and is famously called as a Raman effect. That was a phenomenon that he found - as an interesting question that has to be answered. Now, people know after many years, that it has some relevance for some of the most important things we keep talking about every day - like fiber optics and all that, which Raman couldn't have thought about at that time and be expected to do research because after 30 years 40 years there will be this enormous field in which this will be of enormous importance. And also, like when you

do certain researches, like you do for certain things, but you get some unexpected spin off - that way it will come, you just do the research. For instance, the CERN (European Centre for Nuclear Research), is doing most esoteric kind of research - splitting atoms with huge collider experiments and all, that under the ground somewhere near Geneva. One of the spin-offs from that was, for instance, what we call PET scan - positron emission tomography. They didn't do the colliding of the particles to produce this particular thing which is so important in medicine today. Thus, there can be unexpected spin offs. Research should go on as a research - and therefore we should create enabling conditions.

Talking of research-enabling conditions, If you take the case of Ronald Ross, it is a very illustrative example - actually very opposite example - someone who was often discouraged. He was often reminded that he was an IMS officer. Whenever he wanted furloughs (what we now call sabbatical - the break from work), he was given but with a much great struggle and petitioning. That's why it said he won more against the odds than due to any encouraging or pats for any research he got. And later when researches mattered for actual ground work, for instance, there were discussions about malarial policies - an entire conference was called in Shimla in the early 1900s to discuss practical measures and such a man who did much work in the periphery (and got the highest possible recognition for anyone in science - the Nobel Prize and that too quite early on - in the very second year of the introduction of Nobel Prize itself - he got it working here under such great difficulties and in spite of not-encouraging situations), this man who did work on malaria, was actually kept away from and marginalized from these practical discussions on malaria control because he held the kind of positions which were not too much to the liking of the colonial state. For instance, between the quininists and the opportunists, he was on the opportunist side. He wanted more things to be done especially with regard to eradication of mosquitoes and all that which again are very costly things, which the colonial state would not like. This is what happened to someone who had accomplished so much - and, after all, he was a British and to him itself this could happen. This also happened later to Indians - for instance, again to take the case of J.C. Bose, he also had difficulty in getting furloughs and all that. But in this case, there were other mitigating factors. For instance, once he started making 'waves' - literally he also produced microwaves - the waves of the shortest wavelength possible at that time - so in a both figurative and literal sense, once he started making waves - especially in the international world of science, then he was seen as a kind of another emblem of the rich fruits of the good work done by colonialism: 'see we have produced a great scientist of some great worth, we are not just exploiting, we, with our education and whatever openings we made, were able to produce something of this from ordinary colonial subjects'. Therefore they felt sometimes positively disposed to encourage some of his researches. But otherwise the condition was not very encouraging even for a British scientist like Ronald Ross.

In today's context, there may not be any wanton cases - purposely denying an opportunity or slighting someone like Ross was slighted. It's possible due to some internal, department/university politics and other such things in certain institutions. But by and large, they wouldn't wantonly deny. But then there are other problems that lie on the way of say, professors or others working in institutions - like we need to commit time to administrative tasks, teaching tasks and other such work. One of the enabling things that the concerned institution/administration can do is to create the right kind of balance - that they are not taxed with too much administrative work, or they are given liberal sabbatical and other such things. The national government may not create those kinds of hurdles or have that kind of general indifferent inimical attitude to research - not being like that, is not enough. They should also create those kinds of enabling factors - according to the current situation.

One of the other important issues with regard to the colonial context was the distance between research and people - distance in several senses: one is the physical distance - as we saw most of these labs of high quality, cutting-edge research on malaria, parasitology - were all away in the hills and away also in the other sense - away from the practical concerns. They were not very directly of help in dealing with the relevant diseases and away from people's reach. For instance, many of these laboratories did not have access to patients unlike medical colleges (having patients is actually an advantage - to actually understand in greater depth and variety, the kinds of and the nature of the diseases that they are working on). And they were also away from the potential young researchers who could have probably benefited. This is particularly so, because the research centers were also away from universities which were underfunded and universities are the places where you find the young minds, potential bright young minds apart from faculty and professors. Now coming to the current situation, this can very much happen - this kind of distance can happen - in current scenarios. There is a definite merit in having some isolated centers, some undisturbed atmospheres, without too much of day-to-day pressures of teaching and dealing with students and other such administrative work. But even for such centers there is a constant need to seek their relevance. Of course, you don't ask them every day - on a daily basis - how is this relevant, how is this lab relevant - you don't ask it on a daily basis. But from time to time, you have to keep asking what they are doing for the country. Of course, we do recognize that they are doing research which may be in the short or long term be helpful for the country. But still it's good to see that they are not too distant from the people and their concerns.

One other useful lesson from the colonial case was that in spite of the distance at which some of these centers were placed, the staff of those dedicated research institutes did go and teach undergraduates in nearby colleges. Today also, even if there are centers which have to be isolated and free from these kinds of works, let them be there - but

once in a while at least, let their expertise be available to students and budding young researchers who are in Universities and other such fields like colleges.

Yet another aspect in the colonial scenario is the role of private and commercial organizations and the role of philanthropy. The role of philanthropy at a broader level beyond just research, is discussed in a separate lecture on medical philanthropy. But here we can mention about few example. For instance - the Indian Research Fund Association which, as we saw, can be considered as a precursor of ICMR - this fund had substantial contributions from private individuals. The Pasteur Institute in Coonoor also had substantial initial funding from an American philanthropist. Some of Ross' work on malaria was funded by the planting community - the plantation owners - the UPASI - the United Planters Association of South India. Kala-azar research, as we saw, was supported by tea planters. For hookworm research there was considerable interest shown by the jute industry - not only here, but even in England itself - the Liverpool School for Tropical Medicine was funded to a considerable extent by the mining lobby who had interest in it. All of this go to say that there is - going back to where we started - there is a lot of rich interplay - a lot of fruitful possibilities between research and practical requirements. In fact these practical requirements, as we discussed, can actually guide research in terms of giving research problems. Sometimes people have that intention to do research: 'I want to do quality research, but I just don't know what to work on' - and then the supervisors help - that's one of the important roles of the supervisors. But another way you can find the research problems is like people from the practical world, from the industry or from particular fields like agriculture or the government can come up with some kind of issues related to sanitation or some other municipal work about avoiding manual scavenging - those can be real research problems. Practical demands can drive research but the only thing to be careful is that they shouldn't be driving too much - with too much of instrumentality and too much of vested interest. There should always be that balance between research and always looking for immediate results. Also there should be a balance between how much of it is driven by private interests/commercial gains and love of knowledge. As there should be a happy play - research should also happen just because of the sheer love of knowledge and not necessarily always prodded by these kinds of considerations. This is something I think which all of us will contend with in our life and hopefully, the several points that cropped up in the colonial case can continue to help us at the individual level and at the national level as well and the societal level as well. On that note, we will close this tutorial lecture. Thank you