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VAN DIE REDAKSIE : EDITORIAL

BASIESE WETENSKAPLIKE NAVORSING

Die Wissenschaft—einem ist Sie eine schöne, himmliche Göttin; Einem anderen eine tüchtige Kuh, die ihn mit Butter versorgt.

Schiller

Indien ons 'n ware wetenskaplike definieer as iemand wat objektiewe ondersoeke onderneem, en wat nie sy oordeel deur mistieke of onbewysbare oorlewering laat kleur nie, dan is dit 'n verrassende feit dat meer as 90% van alle wetenskaplikes wat nog ooit geleef het, vandag nog aktief navorsing doen. Dit is 'n tragiese vingerswysing na die mens se traagheid om 'n logiese denkvermoë te ontwikkel. Dit word voorts beweer dat indien deur een of ander edik alle navorsing nou eensklaps verbied word, en die mens geforseer word om ten volle gebruik te maak van al die beskikbare bestaande kennis, veral op mediese gebied, die wêreld gesondheid heelwat sal verbeter.

Hierdie bewerings is interessant en wel waar, maar mens moet hulle in die regte lig beskou. Ons erken dat dit die mens jaarduisende geneem het alvorens hy daarin kon slaag om koud logies te dink, maar toe hy eers dié dissipline te pakke gekry het was daar geen keer nie. Dit is skaars honderd jaar gelede dat ons die eerste meganies aangedrewe voertuig vervaardig het; een wat nie op menslike of dierlike spierkrag moes staatmaak vir beweging nie; en dit is 'n skamele ses dekades gelede dat ons vir die eerste keer daarin geslaag het om 'n paar tree te vlieg, maar nou speel ons reeds op die maan rond en een van die dae is die planete binne bereik.

Dit is ook waar dat ons nie verseker dat al die nuwe kennis wat deur middel van navorsing ontdek word, wel nuttig gebruik word nie. Ons moet soms dieselfde feit oor en oor ontdek voor die waarheid en belang daarvan inslag vind. Maar dit is ongelukkig ook waar dat baie van die gedane, en gepubliseerde navorsing, eenvoudig snert is. 'n Bepaalde deel van die beweerde waarhede moet foutief wees, veral op kliniese gebied, want hulle is dikwels teenstrydig. As 'n wetenskaplike bevinding in stryd is met 'n ander wetenskaplike bevinding dan is een van die twee bevindings onjuis. Dit is onrusbarend om te sien hoeveel sulke teenstrydighede toegelaat word om in ons vakblaaie te verskyn en dan onaangeveg te bly voortbestaan.

Nuwe farmaseutiese preparate word met sogenaamde dubbel-blinde studies noukeurig ondersoek. Hoe dikwels stel die belowende preparaat dan nie in die praktyk teleur nie? En hoe dikwels word aanspraak gemaak op voordele van die een middel bo 'n ander, vers en kapittel bewys in die kliniek en die laboratorium, net om in die praktyk te blyk blote wensdrome te wees. Waar lê die fout?

Is ons bevooroordeel, of is ons metodiek nog nie voldoende vasgelê nie? Dit word gebiedend noodsaaklik dat ons eers weer stil staan en seker maak dat wat ons doen op die gebied van sogenaamde navorsing, wel betroubaar is, anders mors ons ons tyd en die publiek se geld. Navorsingsresultate in die kliniek kan natuurlik nooit absoluut wees nie. Daarvoor is die mens 'n te wispelturige wese. Daar is te veel persoonlike en persoonlikheids faktore wat onvermydelik 'n rol moet speel. Om absolute akkuraatheid te verwag sou ewe absurd wees as om te verlang dat 'n man met 'n mikrometer wat 'n slytasiespeling van 0·01 mm. het 'n metingsakkuraatheid moet bereik van 0·001 mm. Dit is opvallend dat die mees onvaspenbare van al ons kliniese dissiplines, naamlik psigiatrie, die eerste was waarin daar besef is dat self-analise in baie gevalle 'n voorvereiste is vir betroubare werk met ander mense. So vele van ons navorsers sit nog steeds in hul kliniese bootjie en blaas teen die seile in die vae hoop dat dié stukrag hulle in 'n nuttige rigting sal voer.

Basiese navorsing behoort egter resultate te lewer wat permanente waarhede daarstel. Werk in die voorafbepaalbare spelingswydte van laboratorium omstandighede behoort uiteraard volkome betroubaar te wees. Ons erken dat selfs elektroniese apparaat temperamenteel is—ons weet van 'n radio wat slegs FM opvang nadat dit 'n karate-klap op die boonste linker hoek ontvang het—maar oor die algemeen kan noukeuriger werk buite die kliniek verwag word. Newton se wette en die bevindinge van Helmholtz en ander navorsers sal staan tot in ewigheid. Dit is basiese waarhede, en ons het meer sulke feite nodig.

Daar het 'n neiging ontstaan onder die mediese beroep om net kliniese ondersoeke as van werklike belang te beskou en om die pogings van die suiwer wetenskaplikes met 'n tolerante glimlag te aanskou. Die laboratoriumbewoners met hul vuil oorjasse en hul onverstaanbare matematiese formules word al te dikwels as ongeskik beskou om die geslote kring van die mediese Olimpusklub binne te tree. Hulle is welkom wanneer hulle bruikbare feite op 'n skinkbord aandra—bruikbare feite vanuit ons oogpunt gesien—maar hulle moet nie gaan staan en foeter om ons pragtig vooropgestelde idees omver te werp nie. Ons daagliks-gebruikte handboeke wemel van die onsinnigste matematiese en meganiese foute, maar ons steur ons liefs nie daaraan nie. Die kliniek is die heiligdom; die ontoenaderbare koninkryk van die medici.

In hierdie verband wil ons graag nou 'n uitnodiging rig aan diegene wat buite die erkende mediese skole besig is met basiese navorsing van min of meer mediese aard om hul manuskripte aan die *Tydskrif* aan te bied vir publikasie. Ons bladsye is geensins geslote vir die werkers buite die hospitale nie, trouens die bylaag vir laboratorium- en kliniekwerk in hierdie uitgawe is juis bedoel vir sulke artikels. Daar bestaan 'n indruk onder die fisioloë, die statistici en al die ander wetenskaplike vakgebiede dat ons *Tydskrif* die rug sal draai op bydraes vanuit die geledere van die nie-medici, en, nog erger, van die nie-lede van die Mediese Vereniging. Geensins nie. Die wetenskap ken geen klublidmaatskap nie.

Weliswaar sal baie van die artikels deur navorsers in die basiese dissiplines vir ons gereelde mediese lesers totaal Grieks wees, maar 'n bietjie selfondersoek en selfonderrig om die nodige kennis by te bring sal geen skade doen nie en uiteindelik sal ons dan met groter reg weer na ons verskanste klinieke kan terugkeer met die wete dat ons nuutgevonde kennis tog ons alles-oorheersende ideaal, die heil van die pasiënt, bevorder het.

Die volgende uitgawe van hierdie bylaag vir laboratorium- en kliniekwerk sal gewy word aan die basiese navorsing wat in Potchefstroomse Universiteit onderneem word. Ons nooi nou ook die ander sentrums uit om hul werk in ons *Tydskrif* die lig te laat sien.

ADDITIONAL MEDICAL SCHOOLS

The decision that three additional medical schools should be inaugurated is timely and wise. The ever-growing demand for doctors makes it imperative that larger numbers of doctors be trained, unless we want to run the risk of our medical services breaking down under the increasing strain.

The various authorities encumbered with the organization of these new schools need hardly be reminded of the difficulties which beset them in their unenviable task, and we do not wish to rub salt into the wound. There are, however, two aspects of the problem which need to be emphasized, and it should be done now, in order to prevent unhappy consequences later, when it might be too late. The larger number of doctors who will be trained at the new and at the existing schools need never have any fear that they will find themselves unemployed. The demand is too great, and it will certainly not grow less in the years to come. Nor will there ever be a lack of aspirant doctors to make use of the available facilities at the various faculties. The alarming number of students who have to be turned down now, either initially or after having completed their first year of study, is proof of this. What we are concerned about is the finding of personnel to teach these future colleagues.

As already stated, there are two interrelated problems which require attention. As mentioned in the Afrikaans editorial in this issue, doctors are inclined to emphasize, or even over-emphasize, the importance of the clinical side of medicine. This observation holds equally well for the training of students and for the practice of medicine. During discussions with the various authorities at the different centres, we could not help but gain the impression that there exists an almost blasé assumption that we have a sufficient number of eminent medical men available in this country to teach any number of undergraduates. Good physicians, paediatricians and gynaecologists abound, and with the large number of patients at our disposal it is felt that the teaching side need not cause too many problems. That is true, or at least we hope so. But what about the preclinical teaching?

How many anatomists have we available; or physiologists; or bacteriologists? Let us, for argument's sake, consider only the teaching of anatomy. When is a man or a woman an anatomist? Any surgeon or orthopaedic surgeon worth his salt has a very good, detailed knowledge of anatomy. He knows his way about the human body, and, if he is recently qualified, he probably is well versed in the techniques of the dissecting room. But this is not enough. A vast amount of additional knowledge is required before such a savant may honestly style himself an anatomist. He must have intimate understanding of the restrictions imposed by the Anatomy Act and all its regulations; and he must be able to prepare, or at least supervise the preparation of, anatomical specimens. The teaching of anatomy has progressed well beyond the stage when the mere availability of dissecting material was regarded as sufficient. With all the modern teaching aids at our disposal, no student is going to be satisfied with being left with a copy of a dissecting manual and a cadaver—he will rightly expect guidance from his teacher in every aspect of his search for knowledge.

The same holds for other branches of preclinical teaching. Every practising doctor is daily being made more and more aware of the need for a thorough understanding of biochemistry, and where are we going to find teachers able to impart such understanding?

The answer is obvious: we do not have such men or women, and therefore we shall have to train them. And unless this is done as a matter of extreme urgency we are going to find ourselves in dire difficulties when three additional schools start making demands on our meagre reserves. Fortunately, in the basic medical sciences we do not have to insist on vast experience which comes only with age. A good teaching clinician must have a sufficient number of years behind him in order to ensure that he will be able to give reliable guidance in every clinical case which presents itself to the undergraduate; but the bacteriologist or the anatomist must simply possess detailed knowledge of every aspect of his or her art. Should we not, therefore, encourage those students who, at the moment, have to be refused admission to the second year of medical study due to lack of teaching facilities, to take up one of these preclinical disciplines as their chosen specialty? After all, Prof. Robert Muir, the great pathologist, was barely 21 years old when he was appointed to the chair of pathology at Edinburgh University.

Our second worry stems from the first. We can foresee an endless vista of intrigue; of bidding and outbidding and of bitterness between universities. Our brains trust, not in the clinical but in the pre-clinical (that is, the basic medical) sciences, even at the moment is thinly spread. Let us not discover that the establishment of these much-needed new medical schools, instead of supplying us with an additional number of urgently required, well-trained doctors, has merely resulted in a thinner spreading of our already overtaxed resources.

The reaffirmed decision of Federal Council that in principle it is against part-time practice for full-timers, does not affect these teachers of the preclinical subjects, and therefore the only way in which the various universities will be able to entice newcomers to their staff will be by outbidding one another. Perhaps that will result in the authorities realizing the importance of paying these specialists in the basic sciences an adequate salary, but it will not solve the problem of demand and supply.

Let us train them, and, if necessary, let us import them, but let us not cut one another's throats. It would be sad indeed to see good universities being drained of their teachers and being unable to meet the requirements of their students in order to supply the necessary personnel to the new medical schools.

Perhaps the answer lies in a greater use of the new teaching aids such as video-tape and closed-circuit television to spare the services of the lecturers. Would our universities be prepared to share lecturers if such modern techniques made it possible? Until such time as there are a sufficient number of men and women with the correct qualifications to supply the overwhelming demand, we sincerely hope that such co-operation will be sought and will be feasible.