

# Caduceus



MEDICAL STUDENTS' CENTRE,  
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HONG KONG.

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## EDITORIAL

### "V" or "C"

Which do you prefer: "voluntary" or "compulsory"?

University hall membership is compulsory. Every student, whether a resident or a non-resident, has to pay the hall-fees, as a means of belonging to one of the university hostels. There seems to be no place for voluntary act, for every student must become a member of one hostel, meaning that he must pay a certain sum of money. Voluntary negligence of this rule keeps one from being a university student. Surely some students dislike the present compulsory hall membership system unless the facilities of the hostels improve, especially for non-residential members. University students, at least some of them, who enjoy freedom, would prefer voluntary membership. As a result of voluntary act, the sense of belonging can be tremendous, and the membership is bound to be firm and strong, in direct and complete contrast to the present situation, in which the affiliated members, most of them if not all, have no place to stand, have no union with the other hostel members, have no concern with their own hostel, etc. However the number of membership would drop precipitously. On the other hand, compulsory membership identifies every student as a member of a hostel and tries to induce a sense of belonging or to create union.

A questionnaire on voluntary or compulsory membership would bring forth the voice of the students. However the amount of hall fees balanced against the facilities offered to the hall members might head high as an influencing factor on the choice. But should the facilities of existing halls remain unimproved, it would appear better to abolish non-residential membership altogether.

## Wong—Our Delegate To 5th GA ARMSA

The 5th General Assembly of Asian Regional Medical Students' Association will be held in Australia in August. At the 4th Medical Council Meeting on 26th June, it was decided that Mr. Wong Shou Pang, our Ex-

ternal Affairs Secretary, will be the delegate of the Hong Kong University Medical Society to the GA. Besides Mr. Wong, Mr. Tang Kwok Tai will also represent us as an observer.

## Drawing Lots—The Road To Internship

House Officer appointments for the period 1st July — 31st December, 1970, are as follows: (only the number of House Officers is recorded)

Queen Mary	U.M.U.	12	( 8 )
	G.M.U.	4	( 3 )
	U.S.U.	10	( 8 )
	G.S.U.	4	( 3 )
	Paediatrics	6	( 4 )
	Orthopaedics	4	( 3 )
		44	(32)
		—	—
Queen Elizabeth	Medicine	12	( 9 )
	Surgery	12	( 9 )
	Paediatrics	8	( 5 )
	Orthopaedics	4	( 4 )
	Neurosurgery	1	( 1 )
	Obstetrics	4	( 4 )
	Gynaecology	4	( 2 )
		45	(34)
		—	—
Tsan Yuk	Obstetrics	8	( 8 )
Sai Ying Poon	Medicine	1	( 1 )
Nethersole	Medicine	3	( 3 )
	Surgery	3	( 3 )
	Obstetrics	1	( 1 )
	Gynaecology	1	( 1 )
		8	( 8 )
		—	—
Ruttonjee	Medicine	2	( 0 )
		108	(83)
		—	—

[The numbers put in brackets are those of last year's]

This year, the system of House Officer appointments has been completely renewed. First of all, each new graduate was to fill in a form in which there were 2 columns. In the first column, the internship best liked was put in. In the second column, the rest of the internships were filled in, in the order of preference. Thus, if there were sufficient vacancies for a particular internship, all those who applied for it as the first choice would get it. In case the number of vacancies was outnumbered by the number of applicants, then a system of drawing lots would be resorted to. Those who were rejected as a result of drawing lots would be assured as far as possible to have the first choice in his second column in the form. Hence, the whole system aimed at ensuring that each graduate got at least one appointment which he liked.

Many think that it is unfair, especially for those hard working ones, to have the system of drawing lots. Take this year as example. There were about 80 applicants for medical internships. The number of posts of medical internship, though increased to 68 already, still cannot meet the needs. So about a dozen would be eliminated just because they are unlucky in drawing lots.

On the other hand, this is the most time-saving device, whereby individual approach to departmental heads is abolished. It is also fair in the sense that it leaves no room for such manoeuvres as pulling strings. In fact, the vast majority of new graduates this year were satisfied with the appointments they got.



## AROUND THE CAMPUS



**EMERITUS PROFESSOR** — Professor K.S.F. Chang, who retired from the chairman of Anatomy last August, has been appointed Emeritus Professor by the council.

**DIPHTHERIA!** — last month, the Department of Pathology witnessed an attack of diphtheria. Nearly all the senior staffs were infected. Professor Gibson, having just taught his class diphtheria, apparently knew the magic of playing hide & seek with the Corynebacteria, and succeeded in keeping himself still throat clear.

**TOO SHY TO SING?** — Medical students know how to sing. This can be exemplified by our Chairman's numerous performances. So, how would you explain for the fact that there was not a single entry in the singing competition recently organized by the Medical Society? Are we afraid of competing with our Chairman?

**TWO INTERNS IN A ROOM** — The memorable era of 'one intern in a room' is now gone. Starting from this year, because

of the increase in the number of House Officer appointments in Queen Mary & Queen Elizabeth Hospitals, about half of the interns will have to share their rooms with a colleague. Starting from this year too, the number of first year students will be 150. So, the era of 'three men in a boat' is fast coming.

**Voluntary HALL AFFILIATION SUSPENDED** — Did you notice that there were 2 forms for application for halls this year? The first one indicated that hall affiliation will be voluntary in the coming academic year. So many of us applied for hall-lessness. But, on the request of the Union Council, the Senate decided to suspend this policy for the time being. Hence, we were to fill in a second form, and found ourselves attached to a hall again, a hall which many of us had thought of stopping going for

High Tables any more.

**NEED MONEY TO TRAVEL?** Are you interested in travelling abroad on an official basis? Are you too poor to do so even if you so desire to see the outside world? If you are, then the proposed Union Travel Loan Fund is your answer. The terms of reference are now being worked out by the Union Ex-Co. So, please look out.

**"7" YEAR STUDENT** — Now that the final year, 1969-70 has graduated. Now the first year, 1970-71 is yet wandering and peeping before the frontgate of the Medical Faculty. So what year are WE in NOW? Fourth year call themselves final year, and third year call themselves fourth year and so on. Only God Knows who can call themselves first year (70-71) NOW.

**NEW CLASS COMMITTEES** — Final year (70-71):

Class Representatives—

Chan Chok Wan  
Fu Kwok Tai

It is worth mentioning that Chan Chok Wan is now representing his class for the fourth year. No doubt he is famous for his 'father like image.

Fourth year (70-71):

Class Representatives—  
Shiu Yum Keung  
Nancy Fok (Miss)  
Hon. Sec.:  
Ng Hon Shing  
Hon. Treasurer:  
Kong Tai Yuen &  
Gloria Leung (Miss)  
Social Convenor:  
Lee Pui Yin

**'BRAZIL' VERSUS 'ITALY'** — on 24th June, a friendly soccer match was arranged between third year, the reigning class champions in soccer and first & second years combined team. Just like Brazil in their finals, third year managed to beat their opponents by 4-1.

**DANCE DANCE DANCE** — Are you interested in dancing? If you are, then you must have been fully occupied during the last few weeks — the Medic Ball, the 'Fascinators', informal dance of the Social Scientists, the SA informal dance, the Ho Tung Annual Ball, 2nd year Social gathering, Hornell Hall social gathering, 3rd year social gathering,..... They just came like raining.

**WHERE ARE THE NEW DOCTORS?** On 27th June, the Union held a Graduates' Farewell Cocktail Party in the Union Canteen. It was an occasion whereby the new Graduates drank to one another, and talked about their future, their final exam. results & Mrs. Robinson. But also, where had all the new Doctors gone? Why so few of them? Oh, I see. Most of them were already in the hospitals, waiting for their internship to begin.

# MEDIC BALL 1970

The Medic Ball is different from other society balls. It has an aim — to aid the Elixir Loan Fund.

This year it took place on the 6th June at the Connaught Room of the Mandarin Hotel. The evening was honoured by the presence of Prof. C.T. Huang, our President, Dr. K.H. Lee, our Vice-President, Dr. Paul Yue our Hon. Treasurer, and together with professors and lecturers of different departments of the Medical Faculty.

All together there were about 150 people, just right for the Connaught Room. Pairs of Prince Charming and Cinderella gave the Ball the most glamorous and dazzling colour. A fashion show could not offer more up-to-date styles which our ladies wore. If one was not careful, one would probably miss recognizing one's friends. You could never have imagined how well our staff members were at the dances — from waltz to a-go-go. Gliding, twisting and jerking, they gave us a demonstration — on dancing!

We had a 'non-dancing' President, but we had a 'singing' Chairman. His 'One Day' was just too good and drew everyone to the dancing floor. This was not all. Our Master of Ceremony, Mr. David Fang, also sang us two songs. His voice and charm were more than words could describe.

The highlight of the evening was the Raffle Draw. Of all the lovely prizes, the most attractive one was the 'return ticket to Bangkok in MSA Boeing 707'. It was very special and delightful to have Mr. T.K. Wee, manager of MSA, to present this first prize. And to the winner's and everyone's surprise, history repeated itself and SHE got it again! Guess WHO?

## A PATCH OF BLUE

再生緣

It is now summer-time. Want to enjoy a morning show? Now is one on July 19, in London theatre, at 10 a.m., with "A Patch of Blue" on the show. The proceeds will go in aid of the 12th BIG HKU contingent. Tickets will be available at the Union Co-op and London Theatre at \$2, 3, 3.5, 5, 10 respectively.

## 12th BIG

The 12th Biennial Intersvarsity Games will take place in August in Kuala Lumpur. There are 17 Medical Students in the H.K. University contingent. Of the 17, 11 come from 3rd year, 3 from 2nd year and 3 from 4th year. They will set off on July 29. To them we extend our best wishes.

## LANCERS — LACROSSE

Good news for Lacrosse fans. Good news for all who are in-

terested in this newly popular game. The "Lancers", a well-known U.S.A. team, will visit H.K. on July 22 and 23. On July 22, they will give us a coaching session in the Sports

Centre from 9.30 a.m. to 12.00 noon. On July 23 at 4 p.m., there will be a demonstration match put up by them in the H.K. Football Stadium. Admission will be free. All are welcome.

# Correspondence

## Voluntary Hall Membership

Dear Sir,

We wish to express our whole-hearted support for the Senate's decision on voluntary Hall membership and voice our strongest dissatisfaction on the deferment of this issue. For years, there has been unrest amongst the affiliated members due to the discrepancy between the sum paid to the hostels and the benefit they derived in return. Compulsory membership had cost the non-residential members a large sum, which we presume goes to the establishment and maintenance of facilities for residential members. It has been argued that non-residential members can come and enjoy these facilities if they desire, but isn't this analogous to a man who suggests to a girl 'You could have enjoyed it if you had wanted to' after he had indecently assaulted her?

While compulsory membership tends to direct one to identify oneself with a hostel, voluntary membership enables the establishment of individuality, which is what some students are clamouring for nowadays. While compulsory membership is non-democratic in that the authority forces an idea on the student, voluntary membership allows the student to search his conscience and pocket and to decide for himself. While compulsory membership permits the hostels to take advantage of affiliated members, voluntary membership entails the hostels to improve their facilities for affiliated members if they want to attract members and money, thus ensuring that the non-residential members will have a better chance of getting their money's worth.

We wish to enquire the Senate of the following:

1. Was the voluntary membership issue made known to the Union before hand?
  2. Was the deferment of the issue made just because of a letter from the Union President?
  3. Can the decision on the deferment be reversed if it turns out that the majority of Union members support the voluntary membership (1970-71) issue?
- To our Union President, we like to ask:
4. What prompted him to write his letter to the Senate and how many non-residential members have he approached before writing his letter?
  5. Will the President be kind enough to reveal the content of the letter which has much to do with the welfare of the Union Members?
  6. Have the President considered that his letter may lead to a deferment of the issue for one year which in turn will cost Union members a lot of money?

We would be much obliged if the above questions be answered as soon as possible.

Yours etc.

A Group of Medical Students

*Editor's Note: At the request of the Vice-Chancellor, Mr. Peter M. Whyte, Dean of Students, has replied to Questions 1, 2, and 3. The answers to these questions are:*

1. Presumably, yes. The voluntary membership issue arose from the Report of the Working Party on Non-Residential Affiliation on which there were five student members — three of whom were appointed by the Students' Union Council.
2. Yes.
3. Yes. But the Students' Union's decision to test student opinion makes it unlikely that any reversal of the deferment can be effective for the academic year 1970 — 1971.

## Carry On Caduceus

Sir,

Again the Council denied Caduceus the voting right which she can claim constitutionally. It is simply absurd that one of the largest and most energetic of the Society's Standing Committees should be deprived of the basic right. Similar decision by the Council last year had allegedly resulted in the resignation of leading members of the Caduceus Editorial Board. I hope the future Boards will assume the responsibility to carry on this traditional struggle. Success will come when the Council becomes more understanding, or when Caduceus can prove herself too important to be brushed aside.

Yours etc.,  
Fong Sun Tai

*Editor's Note: At the 4th Council Meeting of the Medical Society on 26th June, an Ad hoc committee was set up to make suggestions into any necessary changes in the Constitution of the Medical Society. It is hoped that the Committee will take Mr. Fong's letter into consideration.*

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# WE MEDICS AS OTHERS SEE US

It is always interesting to note the discrepancy between the 'self' in our own eyes and other people's. Self-analysis is good, but is not always unbiased. We tend to be less critical as far as ourselves are concerned and hence our friends' views are often more true than our very own. A total of 7 students from other faculties were interviewed and here are some of their comments on us medical students.

## "A United Group in the University"

A: Let me be personal and talk to all medics in direct speech, "I must say that yours is a rather united group in the University. This is made possible by the fact that you chaps know each other and share the same classroom throughout the year, together with the efforts of your sports captain and social secretary in creating both 'a sporting sense' as well as 'a social sense' of belonging among you."

B: "Medical students form a strong group in the University because, for one reason or another, they are bonded tightly together. This bondage may be established during their 5 years' close contact or indeed, it may well be their unique sense of superiority among all fellow students that has bound them together."

C: "Medical students are united in a sense that they are all proud of their profession and their intimate knowledge of the dreaded enemy of mankind—illness and disease."

## Hallmarks of a Medical student

D: "I can identify the medical students only by their wearing a medic tie, swinging a white gown, and bringing a stethoscope or a pile of medical books; without these they are just like ordinary men."

E: "Before I entered University I had always heard of people talking about medical students as if they were a special 'species'. Throughout my University life, I come to know quite a number of this 'species' and among the thousand and one things that qualify them to be classified as 'special', I would like to say a word or two on the well-famed medicine and Gray's Anatomy. The dark blue medic-tie which, I was told, can be worn only by clinical clerks (i.e. after passing the First M.B.) seems (as least most medics think so) to carry with it a symbolic status — 'the budding doctor' — and perhaps this is the reason why medical students are so proud as to wear it to parties and whatnot. Gray's Anatomy is indeed an impressive volume and it is excusable that the Medical freshmen especially, should be so proud of it. Well, I suppose every subject has a famous book e.g. Psychology's

Morgan and King. The thing is that not every student brags about the thick volumes that he has to go through."

B: "Medical students are on the whole co-operative, lively and sociable. But one thing I am against is that they tend to be very 'medical' in their conversation and sometimes the terms puzzle and bewilder us poor non-medics."

C: "White-gowns, cars, speed-driving, thick books — well, all these are the hallmarks of medical students."

## Personality

F: "On the whole, medical students are friendly and easily approachable. I really enjoy talking with them on account of their frankness and the lively expressions they use."

G: "All the medical students I know are residential members and whatever personality they may have, it has been modified by their residence in hostels. In my eyes, they are all lively persons, active in sports, social functions as well as in taking up posts."

B: "I think every person has one's own personality and medical students are no exception. But in general, I think they are easy to get along with — despite the fact that they are a bit conceited some times."

## Medical students — bookworms?

F: "Considering the volumes of books that a medical student has to read through, and the immensity of a doctor's work, it is expected that medical students are inevitably hand-working, diligent and book-worm type of fellows. Surprisingly they are active in sports and social activities. Card games, marjoh, and sports-cars are some hobbies that keep them busy besides their books."

C: "While many medical students are very lively, bookworms are by no means lacking in the medical faculty, (as far as I know). I guess this is the case in every faculty."

## Medics in the Library

D: "Medical students are a nuisance to the Union Library."

E: "During my final year I spent quite a lot of time in the

library and came to view medical students from another aspect. The studious ones who sit in almost the same position from 9.00 a.m. to 11.00 p.m. form one group. No doubt they contribute to the strung-up atmosphere in the library. The most abominable group are those who gather together to hold an improper 'seminar' in the library (which I must say is a very common practice among the senior medical finalists) and they seemed totally oblivious to meaningful looks and angry glances."

C: "I love to sit near a medical student in the library because his or her deligence and 'sta-

tionary posture' is most inspiring when I need to concentrate."

## "A peculiar disease called 'showing-off' and 'superiority-complex'"

A: "You medics seem to suffer from a peculiar disease called 'showing-off'. Life in the University appears to be intolerable or inadequate for you without a good-looking car. Perhaps you think it befits your status as a future doctor or gives you much satisfaction and convenience in your work, I don't know. And don't be misled into thinking that I am jealous. All I have in mind is that you are more exposed to the dangers of materialism than any other faculty students because you are 'potential money-makers' under the existing situation in Hongkong."

F: "Medical students seldom admit that they feel 'superior' among all other faculties. But

sometimes their pride is expressed in other forms: the noise they make in interhostel matches, the way they behave around the campus, and their manners in social gathering... all these show that they have a high degree of self-confidence and a sense of superiority."

G: "One defect I can see in Medical students is that they are too conscious of their being medical students. They show the sense of superiority in one way or another, especially in the possession of cars etc."

It must be said that some of these comments are a bit strong. Nonetheless there seems more than a grain of truth in them. We now know what our fellow students really think of us and it is high time for us to carry on our good points as well as to do away with bad ones so as to create a better image of ourselves in the eyes of our friends.

## Genetics And Drug Response

(Cont'd from P. 4)

much lower than normal in the patients who showed abnormal sensitivity to suxamethonium. The finding that a patient and his brother both showed this abnormality suggested a genetic origin.

Fortunately, pseudocholinesterase is particularly stable in pooled stored human plasma; apnoea occurring in the atypical homozygote when suxamethonium is administered can therefore be almost immediately stopped by an injection of plasma.

## Conclusions

Unexpectedly wide variations can occur between the responses of different people to the same dose of a drug. New drugs in particular should therefore be used with appropriate caution.

The finding of discontinuous variability in the effect or metabolism of a drug in human populations can lead to the recognition of a new polymorphism. It is also worth paying attention to the variations in side effects of drugs. Since this approach can lead to better understanding of their nature. If the environmental factors are reasonably constant, marked differences in responses to drugs in different ethnic groups can be ascribed to heredity.

Usually the molecular structures of drugs are known, and methods are available for their determination. They can therefore be used as tools in biochemical genetics. The investigations on isoniazid and suxamethonium show how the study of patients can eventually lead to new knowledge about biochemical mechanisms. Conversely the improved knowledge of the biochemistry of acatalasia and G-6-P-D deficiency has in turn led to a better understanding of certain clinical conditions. This interdependence of clinical and laboratory studies means that, since new drugs are continually being introduced into medical practice, there should be an interesting and useful future for pharmacogenetics as this subject may fairly be called.

## Good Bye, Good Luck

Professor R.C.Y. Lin of Pharmacology will be retiring and going back to Singapore this August.

Professor Lin, formerly Professor of Pharmacology, University of Singapore, came to take the chair here in 1964. Throughout these years, he has been an ardent instructor whose energy seems to be inexhaustible. Among his numerous projects were his participation in a research project at Baylor University, Texas, and his attending the Fall Meeting of the American Physiological Society. He always encourages students to assume leadership. One must be courageous and initiative, he said.

Dr. H.F. Chiu of Pathology

resigned and left for America on 1st July. Dr. Chiu graduated from HK University in 1965, and joined the Department of Pathology in 1967. He was promoted lecturer in Pathology in 1968. His chief interest has been in the field of paediatric pathology, particularly in liver diseases. Recently he researched in the pathology of neonatal obstructive jaundice, a condition so important in H.K.

In his leisurely time, he took up music, drawing, and he has been a fervent player in the soccer team of the Pathology Department.

To both Professor Lin and Dr. Chiu, we wish them the best of luck and every success.



Professor Lin, we shall always remember your smile, humour & eloquence (Farewell tea party for Professor Lin by 3rd year, 24th June.)

## WANT TO BE INTERVIEWED ?

(Notice from Caduceus editorial board)

In the coming issue, we'll interview a number of Medical Students on the issue of voluntary hall membership. Any opinions and suggestions from you are welcome. (Please contact Internal Affairs Editor)



A TYPICAL MEDICAL STUDENT

# MEDIMOBILE

by *Broadspeed*

啟思

香港大學學生會  
第二十六卷  
一九七〇年七月十五日

**Introduction**

Motorcars are no longer the servants of the rich. As medical students have to travel a long way to this odd corner of Hong Kong to attend lectures and from place to place to attend clinics, it is most necessary for them to possess some form of efficient and economical transportation. The following monthly discourses on cars are intended to share among us some basic facts and views on cars we are likely to buy new or second-hand, as well as the opinions of the owners of the same model.

**Morris 1100**

Ideal family saloon with 4 doors and front wheel drive. In line four front engine transversely placed is an achievement in

space saving. 1098cc engine gives an acceleration 0-50 mph. of 16 seconds (mk. 1) and top speed of 78.8 mph. returning an overall consumption figure of about 30 mpg. The following are the opinion of a few 1100 owners:

**Performance**

Acceleration, cruising speed and roadholding are fair. Braking from the front disc-brakes are good but the gearbox is poor partly because of the lack of synchromesh on 1st and the tightness even after 17000 miles on the clock.

**Parkability**

Generally good for normal size places and the steering light. However because the drive is front-wheeled, the turning circle

is not small- in this respect the Triumph cars are good.

**Economy**

Very good for the space provided and reasonable even for its engine size. In stop-go traffic encountered in Hong Kong it returns about 30 mpg. but one owner can only get 25 mpg. Probably a little more maintenance will improve the figure.

**Luxury**

Remarkably many owners are complaining of the lack of refinement of the car. Not even a lockable glovebox is provided. Space is surprisingly adequate for the size of the car. The front row of seats can be pushed to the rearst anchoring point with still lots of space left for the back passengers to stretch their legs. Despite the short tail of the 1100, boot space is also surprising adequate- even with the spare wheel living under the floor of the boot.

**Durability**

Apart from the small teething troubles resulting from the lack of adequate checking before exportation, there is a prominent defect of the mechanical parts of the car: Most owners find at 15000 -17000 miles on the clock a rattling of part of the chasis in front as if bare metals are in contact when they are turning full-lock, and later this rattling ap-

pears even when turning on mild bends. This is due to failure of the universal joints, and replacement costs more than \$100.

Starting is always prompt, with a little choke in winter.

The wheelbrace and jack provided with the car are inefficient. It is very hard to take the wheel caps off and the jack works very slowly indeed.

**Other Criticism**

Ventilation is poor. In Spring when the humidity is high and when it is raining, one gets very irritated with the mist on the windscreen. In contrast, the Ford thro-flow ventilation is very good.

Driving position- some remark that the vertical steering column makes it like driving trucks.

**Facts about prices**

68 mk 2 new at \$10950  
67 mk 1 bought at 68 at \$7800  
66 mk 1 bought at 68 at \$6500  
65 mk 1 bought at 69 at \$5400

**Summary**

Considering the price, the roominess, the style and the economy, it is very hard to find another rival in the 1 litre class.

Drawbacks are slight under power for the sporty soul and the failure of universal joint at 16000 miles.

For me, an ideal 1 litre saloon is always the 1100, used or new.

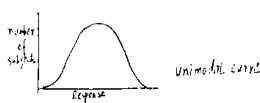


# Genetics And Drug Response

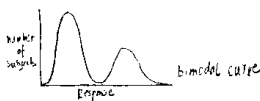
HOMO SAPIENS far from being a pure line, is possibly the most heterozygous animal species surviving at the present day. It is therefore hardly surprising that the response of a human individual to a drug is unpredictable in magnitude and even in character. The extent of the variation, though does not seem to be sufficiently appreciated, in extreme cases it can range from wholly ineffective to fatal from the same dose of a drug.

This particular variability in a human population takes two different forms: continuous and discontinuous.

1. Continuous variation-true for most drugs.



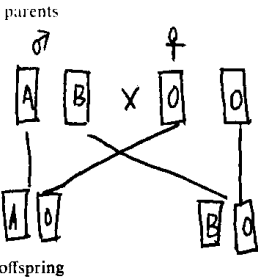
2. Discontinuous variation-the curve may have two peaks, or even three, which can be completely separate or may merge to different degrees.



The hereditary phenomena revealed by means of drugs are all examples of polymorphism, a concept that occupies an important place in modern genetics. Polymorphism signifies the occurrence of two or more discontinuous forms of a species in the same habitat; moreover, the proportions must be such that the maintenance of the rarest form cannot be explained merely by recurrent mutations.

## Blood Groups

The best known example of polymorphism is the ABO blood group system. For unknown reasons, blood groups A, B, O and AB all coexist in the population.



offspring

Inheritance of genes controlling ABO blood groups.

## Taste Testing

When a few crystals of phenylthiocarbamide (P.T.C.) were placed on the tongue some people (about three-quarters of the total) experienced an unpleasant bitter taste, whereas the others detected only a faint bitterness. Family studies show that this polymorphism had a genetic origin, and that the dominant characteristic was the ability to taste P.T.C. easily.

The chemical linkage essential for a display of the polymorphism was  $S-S-C-$ . This linkage is present in the molecules of certain drugs used in medicine, namely thiopentone and thiouracil.

A complex association has gradually been established between P.T.C. tasting and thyroid pathology, namely:

- a) in adenomatous goitre, non tasters are commoner.
- b) in toxic diffuse goitres, tasters are commoner.

c) in atrophic cretinism, non tasters are commoner.

The thyroid and the circumvallate papilli of the tongue are both derived from the same region in the embryo, and this may explain the associations. It seems likely that these areas, and those alone, possess the biochemical mechanism responsible for P.T.C.-tasting polymorphism, but its precise nature has still to be elucidated.

## Acatalasia

The term means that for certain people, the red cells and tissue cells are deficient in catalase. Determinations of blood catalase levels showed that people can be divided into three phenotypes, namely "acatalasic", "hypocatalasic" and "normal".

These characteristics are inherited in the following ways:

## Mating

Normal/hypocatalasic  
Normal/Acatalasic  
Hypocatalasic/Hypocatalasic  
Hypocatalasic/Acatalasic

## Offspring

Hypocatalasic and Normal  
All Hypocatalasic  
Acatalasic, Hypocatalasic and Normal  
Acatalasic and Hypocatalasic  
About half the individuals lacking catalase developed a destructive type of oral and nasal sepsis. It is probably caused by haemolytic streptococci and certain pneumococci that produce

hydrogen peroxides. In the absence of catalase, the haemoglobin of the blood reaching the site is oxidised irreversibly and so is prevented from carrying out its usual function of transporting oxygen to the tissues, so that necrosis occurs.

## Haemoglobin "Zurich" and Sulphonamides

Polymorphism revealed by responses to drugs can generally be traced to genes controlling the synthesis of an enzyme of a group of related enzymes. The next example is not of this pattern, because the poly-morphism resides in the structure of haemoglobin molecules.

A new syndrome discovered in a Swiss family brought to light an unsuspected genetic system, which would probably have been given to two particular related patients.

1) A girl aged two years nine months. After taking sulphodimethoxine for five days considerable haemolysis occurred, producing pallor and jaundice. After stopping the sulphonamide administration and then treating her by blood transfusion, she recovered.

2) Her father, aged twenty-seven years, was given sulphamethoxy pyridazine for three days with results similar to those in his daughter. His haemolytic anaemia also responded to blood transfusions after the sulphonamide treatment was stopped.

The red blood cells of these patients were found to have greater glucose-6-phosphate de-

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hydrogenase activity than normal. They were abnormally short-lived, as shown by ferrokinetic and  $^{51}\text{Cr}$ -tagged red cell survival measurements. Electrophoretic studies showed that both father and daughter carried a mixture of the normal haemoglobin A and a new one called haemoglobin "Zurich". This new haemoglobin is almost identical with haemoglobin A, and differs only in the replacement of a histidine residue by arginine at position 63 of the b-chain.

## Sensitivity To Succinylcholine

Soon after the introduction of succinylcholine, patients were found in whom the muscle relaxant effect was greatly prolonged. In normal individuals, succinylcholine is rapidly hydrolysed by plasma pseudo cholinesterase. The sensitivity to this enzyme was found to be (To be continued)