



## THE DANGEROUS IGNORANCE OF SCIENTISTS

From the time of Galileo scientists have believed they have complete freedom to practise any kind of research. People today, however, most non-scientists and a few scientists are beginning to question this freedom. This change of attitude is taking place because of nuclear energy and the bomb. In fact, ordinary people begin to see that un-limited research is proving to be extremely dangerous. The nature of research and its relation with society have changed.

The nature of research changed from the moment it ceased to be the preserve of isolated or poorly organized individuals and was taken over by large numbers of well-organized groups acting in the framework of powerful institutions. Now people are beginning to see the scientist nothing but a highly specialized employee. Also it gives the lie to the romantic idea that science is geared to the acquisition of knowledge (so-called fundamental research.) Now it is seen to be a vulgar activity carried out for profit, fame and competition.

Now people are being informed about the goals of research, and they want to play a role in the decision-making process.

However, most scientists appear to think the world is standing still. They want to continue acting without any kind of ethical obligation.

A school exercise was held in 1988 on the theme: "How do you, yourself, picture scientists?". Teenagers between 13 and 15 jotted down the following ideas: "A scientist must love life and society, because his(sic) experiments are always carried out for the benefit of society, for the year 2000, not for his own benefit. In a way he's a sort of God".....for me, he is really the best of all men...." "A scientist is more than a mere man"; "They are supernatural beings. I do not see them as humans. I have the impression that their knowledge has made them sublime"....."They should be able to solve all the problems of Mankind: Third World hunger, war and even death"...

In reality, far from being the God whom these innocents imagine, he is not even a learned man, but merely, at best, someone who knows a great deal about a very narrow subject. This means that he is a potentially dangerous person, for the skills some people see in him are a corollary to his lack of more comprehensive knowledge, his ability to deal with a complex subject (such ability, when exercised at a particular point in Nature's edifice, inevitably unbalances the whole) and his scorn for any learning processes outside his scope, such as those derived from other scientific disciplines or alien to "his method".

Some youngsters nevertheless sense that competition is the driving force of research. "A scientist is always thinking in his work to try to find the answer to the problem which everyone is concerned about, so that he can be the first to

## U RISKU NO-SKI DE PLU SKIENCISTI

Ex Galileo-tem plu skientisti pa kredi; mu habe holo libe de praxi ali speci recerka. Anti-co, plu persona nu-di, maxi-sume no-skiencisti e oligo skientisti proto questio u-ci libe. U-ci muta de atitudi acide ka nukleu energi e bomba. Veri, plu medio-pe proto logi; ke no-ge-limita recerka monstra se de es fo-fo-perilo. U natura de recerka e id relatio ko societa muta.

U natura de recerka pa muta; ex kron id pa stop es un idio-kampa de plu idio-pe, alo mali ge-organiza individua; e pa gene sume ex poli ben-ge-organiza grega akti in skeleto de plu dinamo societa. Nu u demo proto vide; ; u skientisti es solo u fo-ge-specializa ergo-pe. Plus, id indik u no-veri; ke skience tend ad u kolekti de ski (so-ge-nima fundamenta recerka). Nu na vide; id es u vulgar aktivi ge-praxi pro profito, famo, e kompeti.

Nu u demo gene info de plu buta de recerka; e mu volu akt u mero in decide-face.

Anti-co, maxi skientisti feno kredi; u munda sta no-muta. Mu volu kontinu akti minus ali speci etika obligati.

U skola exercise pa gene organiza 1988 de tema; "Komo tu, auto, imagina u skientista?" Plu juve-pe inter 13 e 15 pa skribe plu seque idea: "U skientisti, sura, filo bio e societa; ka an plu experimenta gene face pro u societa, pro un anua 2000, e ne pro an auto. An es u speci teo". "... An es u maxi-boni de panto Homi".... "U skientisti es ma de un andro"; "Mu es supra-natura bio-ra. Mi ne kredi; mu es plu homi. "Mi este; mu ski face mu extra-ordinari...."Mu debi pote solve panto problema de Homi; Munda Tri famina, milita, klu Morta".....

Reali, an es ne u Teo, ge-imagina per plu-ci naivi juve-pe. An es u no-ski-pe; sed solo u persona; qui ski mega de u fo steno tema. U-ci indika; an es u fo-perilo persona; ka an es fo-pusi tekno, tro steno-tekno. An ne-pote logi u kompleksi tema. U-ci no-pote no-balance un holo. An no-valu plu hetero skience extra an logi, exempla, klu plu-la xenomode in auto kampo.

Anti-co, plura juve-pe este; ke kompeti stimula recerka....."A skientisti panto-tem tenta detekt u solve de u problema; qui turba panto-pe; te es u prima-pe de detekt u solve.

come up with the solution". Of course, the scientist encourages this absurd idea; it gives him freedom of action. He wants to be free from all constraints, economic and military, and inspired by only the quest for greater knowledge – yet another naive idea.

Deep fundamental research is becoming a thing of the past. There is nothing unworthy about practising 'Applied Research' but scientists like to pass this off as 'Fundamental Research'. It is really intended to maintain the myth of science as a neutral discipline, which must be free from any constraints.

It is the ordinary person, who finances research; and such non-science people must supervise the aims of these most unlearned "scientists."

Some European authorities capable of realizing the aspirations of the people must be set up. Promoters of new technologies may be asked for advice, but they should be barred from deciding about things in which they have a vested interest. The judgements would be made by the political structures of the community, in accordance with the normal problem-solving procedures used in any democratic system.

It is only through ethical considerations that we will curb our giddy infatuation with the new frontiers of science and alleviate our mental inability to reconcile our deeper values with the growing array of what science has to offer. We all sense that our inner life, our feelings, have nothing to gain from scientific method, that we do not need to become intelligible in order to remain intelligent. I am sure that those of my colleagues who are not blinkered by an exclusively rational view of the world know this too, and that they are not prepared to admit to themselves, in their heart of hearts, that they are nothing more than a heap of organized molecules.

Ge-brevi ex un artikla 'Who is Frank Einstein?'  
ex Jacques Testart; ge-publika in "Forum" Septembra  
1988. Forum gene publika ex The Council of  
Europe, 67006 Strasbourg, Cedex, France.

U skienctisti stimulu u-ci fatuo idea. Id don ad an u libe de akti. An volu nuli limita, ekonomio alo milita; e an volu; ke panto-pe kredi; an es ge-stimula per u cerka de ma-mega ski, u plus anti-veri idea.

Profunda recerka deveni u pa-ra. Ge-aplika recerka ne es mali; ; sed id es mali de sti kredi id es profunda recerka. Mu volu tena u mit de skience - ke id es u neutra -ra; qui nece tolera nuli limita.

U valuta pro recerka veni ex plu ordinari no-skienctisti; e plu-ci no-skience-pe nece supra-vide plu buta de plu-ci no-ski steno experti-pe.

Plu Euro-demo nece establi plura arki-pe qui fu reali plu volu de u demo.

Pe fu posi petitio plu promoti-pe de plu neo teknologi de konsili; sed pe nece sto mu ex decide de plu ra, in qui mu habe u valuta-interese. Plu decide fu gene face per plu politika struktura de u komunita, per plu normali problema-solve procesi ge-uti in ali demokrati sistema.

Un etika nece krati na tro-pro relatio ko plu neo frontira de skience; e levia na mentali no-pote de harmoni na plu ma-profunda valu kon u kreske nume de plu-ra plu skienctisti ofere. Panto-na este; ke na intra bio, na plu este, ne pote gene profito ex skience metodi; ke na ne nece gene luci te resta intelige. Mi este sura; ke mi plu kon-ergo-pe; qui ne es ge-kaeko per u solo rationa vista de u munda; ski plus u-ci; e mu ne es prepara de konfes a se in mu kardia; ke mu es nuli-ra ma de u kumu de plu ge-organiza molekula.

## 18 STEPS TO FLUENCY IN EURO-GLOSA

By Wendy Ashby & Ronald Clark

being the new title of the second greatly revised edition of the 18 Steps to Fluency in Glosa.

Size A5. 80 pages. Spiral-bound. ISBN 0 946540 11 X  
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Readership; The book is targeted at those who prefer working systematically through exercises; and especially for students who have had little experience in the mastery of a second language.

# PLU GRAMA

R. CLARK & W. ASHBY  
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ENGLAND

....I bought nearly all of Prof.Hogben's books,  
'Interglossa' and 'Mathematics for the Million'.....

For a time I tried to keep a diary in Interglossa,  
but found the verb system difficult. I would write  
"Mi pre cteni... " instead of "Mi pre acti cteni..."

B. Berger, Pennsylvania,  
U.S.A.

We contacted Hogben, who was quite delighted when  
we agreed to persist in developing Interglossa.  
As he had put it forward as a Draft proposal, he  
told us to modify whatever we thought necessary.  
In no way have we changed anything of a funda-  
mental nature, only details. For example;

1. We found the Verbooid system unnecessary. You  
know of course that he got that particular idea  
from Basic English. We agree with you that they  
are definitely not necessary. They may have an  
occasional use when precision is necessary and  
they do indicate that the Verbooid with immediately  
following Amplifier form a verb. We have never  
had to use them, although we have given several  
pages to them in the Glosa 1000 Dictionary.

Verbooids might very well be useful in Com-  
puter Translation. Perhaps other Glosa students  
might have some ideas about them?

2. We have introduced phonetic spelling which  
has been generally welcomed.

The slight differences between Interglossa and  
Glosa are listed in PGN number 35.

Dear Friends,

What news about the revised and  
enlarged edition of the Glosa study book?  
I haven't received 'Plu Glosa Nota' for some-  
time now, have you delayed production of these  
two publications because of lack of funds?  
I enclose donation to cover postage for your  
reply. Please note my new address.

Robin Gaskell, 82 Rowe Street, Eastwood 2122,  
New South Wales, Australia.

Very sorry about the two delays. Explanation is  
sadly simple.

The new edition of "18 Steps" has been absorbing all  
our time and energy. We are just putting the  
finishing touches to both PGN 43 and the new  
"18 Steps to Fluency in Euro-Glosa."

Unfortunately we cant yet afford a Word Processor,  
which would obviously increase our efficiency  
enormously. Its maddening to think how much time  
we waste sticking in corrections and pasting up.  
A Word Processor would halve the time and tedium  
that we are forced to put in now.

## GLOSA NOTELETS

Glosa Notelets with wording 'Glosa The Global  
Language for the Global Village' and picture.  
Green printing on cream background.

Price .....85p including postage in Britain  
....£1-10 " " overseas.

Packet containing 5 notelets and envelopes

Mi este fo hedo de u meliora Glosa ortografi.....  
....Mi volu proposi oligo idea, plura importa.  
plura non-importa.....

U forma NIMA ne habe basi. Id debi es ONIMA homo  
in verba SIN-ONIMA, PSEUD-ONIMA..  
Vice ESQUE mi volu vide QUE te introduc u questio.

Plus, mi elekti KE pro Eng.'that'. exempla, in  
'I believe that..... MI KREDI; KE .....

Plus, Mi proposi u Glosa "PLIKA-KARTA'.

S.Rice,  
Alaska, U.S.A.

NIMA, name. The Greek root is certainly ONIM. But  
it is a principle of Glosa to admit nothing un-  
necessary, and always to prefer the shortest root.  
The Greek ONIM is an anomaly amongst the Indo-  
European langages. The original Sanskrit is  
NEM or NOM. The N & M are constant with a varying  
middle vowel. Old English was NAMian. Old Saxon  
NAMO. Old Norse NAFN for NAMN. Old Irish AINMM.  
Manx ENNYM. Armenian ANUN. Lapp. NAMMA.  
There is a similar prothetic(initial) vowel in  
Greek ONYX, nail. All other languages are  
variations on German NAGEL. Old English NAEGEL.  
Russian NOGOT. Latin UNGUIS, giving English  
UNGULATE. Greek ONYX. Sanskrit NAKHAS. Indo-  
European root NAGH and NOGH.

So both Latin and Greek have a prefixed U- IN  
Latin, and O- for Greek.

Isn't this sufficient reason for rejecting the  
anomolous O- of Greek?.

QUE for introducing a QUEstion. Yes, after much  
translation we agree 1/ the brevity of QUE is a  
winning factor 2/ that leaves KE for 'that'.  
They could also be abbreviated to QE and K.

About the PLIKA-KARTA. Yes, again, we have had  
this in mind for some time, preferably in at least  
2 colors. Trouble is we cant afford it yet. We  
have just finished the new edition of "18 STEPS"  
and that must have priority

## PLU GRAM-AMI

Siniorina Jenny Crump  
"Ballintoy" Island Harbour, Mill Lane,  
Binfield, Newport, Isle of Wight, PO30 2LA,  
Britain.

Plu interese; Baha'i Fide, Munda Paci,  
Ekologi, Positivi skience e teknologi,  
longi-dista veli.

Sinor Bernard Berger  
2101 Chestnut Street, Apartment 1210,  
Philadelphia, Pennsylvania, 19103, U.S.A.

Plu interese;  
Cako, kriptografi, fo amo solve plu xeno-  
lingua kriptograma.



## U BREVI SAVANA EKOLOGI

Plu gra-landa de Afrika es ge-nimo u Savana. Id nutri u miria zoa de fo-poli speci. U gra kresk a proxi mo metra, e sembla un enormo area de rubi cereali. Id pote resisto, tolera levia voro; sed infra mega voro rapidi mori.

Pleisto zoa voro gra. plu nume de zoa vari ex anua ad anua. Tem u sik anua...no-sati gra...no-sati lakti...no-sati infanti. Anti-co e boni-fortuna plu-ci zoa tako re-gene mu norma nume. Panto casa-zoa eko epi plu gra-landa. Infra plu-ci es plu ma-pusi cide-zoa; fini, plu nekrofago; qui voro panto-ra.

U mega basi de plu herbivoro es u basi de u pirami. Mu es u preda de plu karnivoro, plu ma-pusi karnivoro; qui, auto, deveni u preda de plu mega karnivoro. U viole procesi, sed id ne menace u ge-casa speci. Top akro de pirami es plu mega Feli. Plu ma-pusi karnivoro e plu nekrofago zoa forma plu inter-strata. Top u funda plu nekrofago, plu mikrobi, fungi e pusi insekti in u gra.

SERENGETI es u famo natio parka. Id dona sito a ma de semi-miliona zoa, pleisto-mu es plu gra-voro ungulata. Mu ne kompeti; sed voro per mode; qui ne noku u sito de u po-zoa. Id es bene-ge-ski; ke nuli bi hetero speci pote eko in un iso peri-lo; e voro un iso-ma ex id. Ka-co, plu bio-ra abund in savana, sed es nuli-kron tro-,supra-abunda. Singu speci u difere sito e ne kompeti.

Plu undula de Serengeti plano influ u kine de plu gra-voro zoa. Aqua-tem - mega gra - plu ge-mixa grega zoa voro epi plu ma-alti area. Tem pasa - gene ma-sika - plu zoa ki kata ad-in plu vale. Plu mega zoa prima ki kata. Plu ma-mega ungulata frakt u longi gra per voro e ungu id. Nu, plu ma-pusi zoa pote detekti mu sito intra botani e sperma strata.

Kaso gra-voro il es plu voro libela; Zebra vor u supra mero de gra Konochaetes(Gnu) voro centra Gazella voro plu sperma e rami.



PLU NEKROFAGO. U nudi kef e kola de plu leuko Vultura es fo no-beli; sed fo-higie. U-ci nudi don a mu u pote de diti u kefa ad-in u morta soma. Un Egipti Vultura es un excepti. Id es ge-pina; e, ka-co, pote voro solo plu mero sito ge-bali a latu ex plu prima karnivoro. Plu Vultura peti kata ex cele; e per-co indik u loka de morta-soma a plu hetero nekrofago.

PLU SARKOFAGUS DIPTERA E THANATOFILUS KOLEOPTERA voro plu ultima resta-ra; po plu mega voro-zoa pa ki ab.

Fini, PLU LARVA de u kornu-fora Lepidoptera, relati de un ordinari vesti-voro insekti; pote voro plu kornu de un ungulata.

## U GENETI REVOLUTIO E NATURA

U pote de Homi de interfere ko peri-lo es fo-mega, e poli ekologisti es ge-turba ex plu menace ad un ambienta si geneti manipula ne gene loka infra etika examina.

Homi panto-kron pa du manipula u genetika de plu hetero speci pro an profito. Exempla, per ge-selekti kruci na gene plu kani ex Lupus(Wolf); e un enormo nume de plu cereali ex plu agrio gra. Insulin iso u-la ge-sintesti in pankreas pote nu gene produce in plu mega quantita in vitro.

Maxi progresi, a-nu, pa gene akti in laboratorii, per plu experimenta epi plu ma-simpli forma de bio exempla, bakteria. Nu, anti-co, pe experimenta e epi u kreske nume de plu agrio e ge-kultiva speci, supra toto epi plu fito. Panto skiencti este akorda; ke id es fo-importa de kuro pro na plu natura geneti pluto; ex plu ciano-kloro algae a poli proxi ge-lose speci.

Exempla, puta de Oryza; ma de 35 miliona hektare Oryza in Asia es nu ma-resista a plu virus; qui in pa-tem pa-kausaa poli pato. U-ci mega resista veni ex un India varieta de un agrio Oryza nivara. E West Afrika kakao produce pa gene ma-mega a 70% per uti plu agrio e semi-agrio varieta ex Peru

Ka u natura heredi es fo-importa pro nu- e fu-tem; il es tri importa questio. Komo mega es u-ci agrio heredi? Komo id pa developo? Que, id es in risiko?

U nume de plu fito e zoa speci; qui eko, nu, in Biosferi es ge-estima inter 20 e 30 milion. De plu-ci na ski;

- \* Oligo kilo vertebrata;
- \* 250,000 speci de plu vaskula fito; plu dendro, flori e pteridofito.
- \* 150,000 speci de plu no-vaskula fito; algae, fungi e bakteria;
- \* 1,300,000 invertebrata speci; plu insekti, arakni vermi etc.

Alora na ski mei de 10% de panto nu-speci. Ka 80% de panto bio-ra epi Gaia eko in plu relativu no-ge-explora tropika regio; e u maxi destru acide in plu-ci regio. Mega noku gene uti, plus, in plu tempora regio; per plu kemi-ma, pesticide-ma.

Plu skiencti pa uti u speci tomato ex plu Galapagos nesia te produce u tomato; qui habe zero nodi epi kauli; id es mega ma-facili de karpe per makina.

U neo speci fu posi ki ad-in kompeti anti mo alo ma nu-speci. Id sio mori alo multipli. Pe ne pote divina. Alo. id fu posi enkontra zero kompeti; e multipli enormo; homo Eichhornia(Water Hyacinth) e u bivalva Dreissena; qui extende tako in panto laku de Centra Europa kausa poli speci noku. Plu navi epi Laku Geneva pa gene lento per plu enormo quantita Dreissena adhesi a plu funda. Pe nece doña kura de mini u risiko.

Pe tenta transfer u mikoriza-pote a plu fito; qui nu ne habe id.

Genetika pa dona fo-boni resulta tem u Kloro Revolutio in 1960+; per un introduce de plu mega-dona varieta ad -in plu developo landa. Exempla, India pa produce 55 miliona tonne in 1950, sed 153 milion tone in 1984 per plu-ci neo varieta. Nu, India pote exporta plu cereali.

Anti-co, il fu es poli no-facili. Exempla, klu po pe detekt e isola u gena kon u ge-volu qualita, exempla pro ma-boni gluten produce; id es fo-no-facili de detekt u debi -lo in u geneti struktura de u gene-fito.

Poli skiencti dice; exempla, ke plu pluso tenta de ma-mega u fotosinteti pote de plu fito (i.e u pote de muta sola energi a BioMasi) fu es minus-profito; ka Natura per Natura Selekti durante plu miliona de anua, pa maxi u procesi. Fini, mu sugesti, ke N-fixa Tritikum fu posi spende ta energi pro u-la aktivi; ke no-sati energi sio resta te tekto protein.

Tem skience progresi; pe proto logi; ke u kompleksi de u geneti-me de zoa e fito kontinu kreske. Exempla; plu certa gena monitora plu aktivi de posi penta-ze(50) hetero-ra; ka-co id gene proxi no-posi te detekti; quo gena produce quo karakteri. Plus, plu meliora freque kausa u ma-mega depende epi plu mekani, exempla, plu herbicide-ma, insekticide, plu fertili- ma e vitri-do.

Progres in agrikultura nece avanti ko progres in agro-kemi industri.

Un hetero problema es u rapidi cide de plu speci e u konseque gene steno de geneti basi. Mo skola de puta deklara; ke 10,000 anua retro 5 miliona persona epi Geo pa voro 5,000 fito; e nu-di ma de 4,000 milion persona uti proxi solo 150 fito. Il es 80,000 ge-ski ed-abili fito, sed, solo proxi 50 provide 90% de na sito.

Plus, pleisto fito kontinu de gene meliora; ka selekti kruci(breeding); qui duc ad u lose de plu longi-establi hetero-ra. Exempla, in Greko-landa, exempla, 95% Triticum varieta ge-uti 40 anua retro

es nu ge-lose. Ka-co, u fu-demò los u posi de meliora plu duce fito per kruci:(cross-breeding) ko plu relatio fito, anti plu efforti ex FAO e plu hetero organizatio de tena poli varieta.

U paraleli developo es u lose de plu agrio fito e zoa speci, u procesi; qui duc ad u risiko steno de u geneti basi de u bio de u planeta. Mo pesimisti doxo deklara; ke intra 30 anua inter 30 e 70% de nu bene-ge-ski fito e zoa fu-pa gene lose; ka un expande de plu urba-area, u cide de plu tropika foresta, u face de plu deserta e pluti.

Que, Homi auto un exempla de bio, pote prepara de cide-pleisto hetero speci bio peri an?

## NU-DI AGRI-KULTURA;

## FU-DI GENA-KULTURA

U verba "biogenetics" pa gene komposi proxi deka anua retro. id refere ad plu metodi de meliora per skience u geneti struktura de plu fito e zoa. Homi pa proto u-ci ventura 9,000 anua retro pre Kristi, kron pe pa komence agrikultura epi plu ripa de Eufrates.

Pre nu-pa un ameliora de fito e zoa pa es u fo-lento aktivi. Pe pa selekti un organisma e un hetero de un homo speci; pa tenta sti kopula mu; e spe, e atende u resulta. U tem pa es longi, posi poli generatio.

Nu, per geneti manipula intra mo fito alo zoa speci, u procesi de meliora acide fo-tako. Plus, pe proto transfere mo alo ma gena ex mo speci ad un hetero speci; qui ne pote kruci in Natura.

Anti-cio id ne es facili te detekti quo mero DNA in u speci fere u certa karakteri de u fito. U geneti kodi es univers ex bakteria a mamalia; sed u mekani pro regula plu gena intra a celu difere akorda speci. U-ci indika; ke plu gena pote gene transfere ex mo speci ad un hetero; sed, u-ci gena fu gene expresi hetero in u neo bio-ra.

Il es poli speci de geneti meliora; plu exempla; u ma-forti resista a plu parasiti e pesta, a plu pato, kristi, sika-tem, alo sali tera. Id es posi de produc u tomato kon u mega sika-ponde.

Un meliora de u geneti-me de plu fito e zoa progresi nu fo-tako. per skience. Sed, u-ci es solo u komence. Fu-agrikulti fu dife mega ex u-la de pa-di. Ex cent-anua mo-penta u quantita de fito ge-produce ex mo hektare pa kreske para deka. Posi in u fu-cent-anua id fu kreske para bi-alo tricenti pro centi. Exempla, France, ex 1955, produce u tri-pli (three-fold) quantita Triticum, ex singu hektar. Quo fu es un efekti de u-ci developo pro plu agri-pe, rura regio; pro u munda sito, e pro societa.?

Plu Leguminose fito, exempla, Faba(Bean), Trifolium (Clover), Licine max(Soya) pote 'fixa' nitrogen ex un aereo; ka mu habe plu speciali bakteria in radi-sistema. Anti-co, maxi nume de fito ne habe u-ci pote; e, ka-co, nece gene plu kemi-ma te dona plu maga quantita. Plu skiencisti nu tenta introduce u-ci N-fixa pote a plu hetero fito, exempla Triticum(Wheat). Si mu succede, mo de plu maxi preci kemi-ma in agrikultura fu gene apo.

Nu, plu skiencisti stude plu hetero aspekti de fito aktivi, exempla u pote de absorb e tena aqua e kemi-ma. Nu-tem, solo u mero de plu-ci gene uti per u fito.

Pe koncentra nu epi plu Mikoriza, u fo-kompleksi simbiosis de plu radi sistema e plu fungi. U-ci es mega ma ge-developo in oligo fito de in plu hetero.

## UN HASHAB DENDRO

U spina Leguminso dendro Akacia senegal eko panto-lo in Sahelia -Sudan zona de Afrika. Id auxi fertili u tera; e iso-tem produce in-valuta pro plu agri-pe. In Sudan Arab Lingua u nima es haskab.

Kron pe sek u dendro; id produce mega ma guma de es necesa te repar u vulne. U-ci guma es u polisakaride; qui fo solve in aqua. Plus, id es u boni emusli-ma sin pusi visko.. Un hetero nima es gum-arabik; id es non-toxik, no-poluti, habe nuli kalori, e es minus flavoro e odoro. Plu-ci es plu extraordinari qualita; ka-co id gene uti in plu sukro-ma, plu hetero voro-ma, plu farmakeutika plu hesi- e grafo-ma, plu fotografi e aqua-kolori.

Sudan es u maxi exporta-landa de u guma - valu \$80 miliona. Id es exporta 3, po 1 plu agri-zoa, e 2 kotona/Gosipa.

Akacia senegal es u maxi-importa fonta de in-valuta e ergo a plu agri-pe; qui vulne plu dendro in sika-tem; kron es nuli hetero fito de kura pro.

Plu profunda koni-radi e plu extende latera-radi stabil u tera, evita u risiko de deserta-face. Plus, u dendro fixa nitrogen, qui sti kreske plu gra.

## GREKO E LATINO IN DEUTSCH

Poli persona ski; ke plu Romance lingua es ge-basi epi Latina; sed mu mira; kron mu gene ski; ke Deutsch plus Ruski inklude mega nume de Latin e Greka verba. U seque artikla es u sumari de mero introduce ex Deutsche Duden Fremdwörter Buch (Deutsche Xeno Verba Libra); qui lista 48 kilo Deutsche verba; qui veni ex Latin e Greko. Poli Deutsche -pe kredi; ke plu-ci verba es ur-Deutsch (homo poli English-pe); id es u facili mis-logi; ka mu habe un ur-Deutsch soni, e poli-mu acid in panto-di konversa. Plu exempla; Möbel, Bus, Dose, Doktor, Schule, Strasse, . Pe audi e lekto mu panto-di in T.V., Radio, e Presa. Plu nova-papira, exempla, pote uti 8 a 9%.

Si pe inklude plu Substantive, Adjektiva, e plu Klavi-verba, u pro centi ki ana a 16 a 17%. In jurnalisti e specialisti textu - a 85% xeno verba es nece. In no-specialisti textu solo 25% es nece. In holo Deutsche Lexikon de cirka 400kilo verba cirka 100kilo es xeno (L e G).; ma simpli, qui indika; ke es mo xeno-verba a tri ur-Deutsche verba. Vide "Glosa es in Deutsch" Plu Glosa Nota 42

# GLOSA BEATS M.T.

There is just one problem with Computer translations they are awful. One machine took a couple of innocent Japanese sentences and came up with:

"Like this there be we to very busy situation". and "All employees are able to peel to this project and be holding the fight for the plan achievement".

The software to achieve this sort of sentence costs around ¥630,000 or \$4,500.

Unfortunately these sentences are the good ones.

When NEC claims that its English-to-Japanese program is "70% accurate", what it means is that 7 sentences in every ten come out in reconstructible form. One can't even guess the rest.

Mr. Hiroshi Uchida runs Fujitsu's machine translation project since it started nine years ago. Computers are good at translating technical terms — of which, according to Mr. Uchida there are already 30 million in English — and they have no difficulty in ensuring that expressions are translated consistently throughout a long text.

What computers are bad at is producing something that looks like a well-written sentence.

Japanese has a much more regular sentence structure than English. Its verbs always come at the end of sentences. Japanese sentences have no breaks or punctuation between words and only rarely have a break between sentences.

Every school-child knows examples of ambiguous sentences, such as "It is advisable to avoid flying aeroplanes" or "I see the sausage rolls under the table". The only way to sort these out is to look at the context, which is one of the toughest problems in computing.

Most systems now on the market can handle only a tiny range of examples and will sometimes get even those wrong.

If the word "screen" occurs in a TV Manual, it is much more likely to be used as a noun than as a verb meaning "filter or conceal", but there is chaos when it means the latter.

The problem grows as the number of languages increases; the European Community's 9 official languages would take 72 dictionaries, one for each language pair.

The ultimate goal is the simultaneous translation of unrestricted speech.

The ministry has banded together seven big Japanese companies and IBM Japan to work on the problem. It hopes these 8 might find a solution by early next century.

Readers will note that Mr. Uchida says computers are good at translating technical terms; i.e. Glosa words.

He also states there are about 30 million English technical terms; and these of course are mostly based on Latin and Greek, i.e. Glosa.

If all children everywhere were given a few brief lessons about Glosa, there would be no need to spend the truly enormous amount of time and money on perfecting machine translation. The only advantage perhaps to come out of all this research will be the discovery that human language is much stranger than they had supposed.

# GLOSA VINCE M.T.

Il es mo problema ko plu puta-me traduce; mu es fo-mali. Mo makina pa gene bi simpli Japanese frase, e pa dona:

"Like this there be we to very busy situation". and "All employees are able to peel to this project and be holding the fight for the plan achievement"

U program te gene u-ci speci frase es ge-precu cirka ¥630,000 alo \$4,500.

Mali-fortuna plu-ci frase es plu boni.

Kron NEC deklara; ke id English-a-Japanese program es "70% veri", id signifi; ke 7 frase in 10 veni ex in redakt-abili forma. Pe ne pote klu divina plu resta.

Sr. Hiroshi Uchida duce Fujitsu-makina traduce-projekti ex kron id pa proto 9 anua retro. Plu puta-me pote traduce bene plu tekno verba — e Sr. Uchida dic; il es 30 miliona in English — e plu-ci gene traduce bene dia u longi textu.

Plu puta-me ne pote produce u bene-ge-grafo frase.

Japanese habe u mega ma uniforma frase struktura de English. U klavi-verba panto-tem veni top u fini de frase. Plu japanese frase habe zero punktu inter plu verba, e solo rari hab u frakti inter plu frase.

Singu skol-infanti ski plu exempla de plu bi-semani frase, exempla, "It is advisable to avoid flying aeroplanes", alo "I see the sausage rolls under the table". U solo mode de logi plu-ci es examina u kontextu, qui es mo de plu maxi no-facili problema in komputa.

U maxi nume de sistema nu gene vendo pote traduce solo oligo exempla, e freque traduce klu plu-ci falsi.

Si u verba "screen" habe loka in T.V.bibli, id es maxi freque u nomina, no-freque id fu semani "filter" alo "conceal"; sed il es kaos kron id semani plu-ci.

U problema kreske kon u kreske nume de lingua; U European Komuniti 9 ofici lingua sio volu 72 lexikona, mo pro singu lingua bi.

U tende es un iso-kron traduce de no-ge-limita dice.

U Japanese Ministri pa uni 7 mega kompani e IBM Japan te solv u problema. Id spe; plu-ci 8 fu solv u problema proto anua 2000.

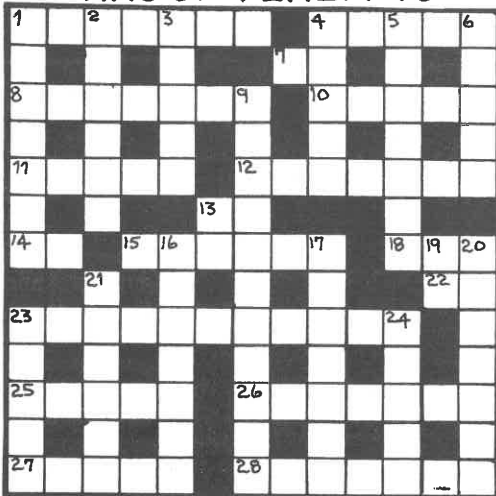
Sr. Uchida dice; ke plu puta-me traduce fo-bene plu tekni-termi, i.e. plu Glosa termi.

An deklara, plus; il es cirka 30 miliona English tekni-termi — praxi panto-mu Glosa-termi.

Si panto infanti panto-lo pa gene plura brevi sko de Glosa; id ne sio es necesa de spende u-la mega tem e valuta tenta perfekti Makina Traduce. Posi, u solo sko plu skiencisti fu gene ex mu ergo fu es u subito logi; ke Homi lingua es fo-mega ma-misteri; ke mu prima pa doxo.

# ENIGMA PAGINA

## KRUCI-VERBA 43



Ko plu kriptio indika.

Vertikal

- 1 Rumina-zoa. 7
- 2 Tena mega protein valu. 6
- 3 Fe organi. 5
- 4 Klu u ge-konfusi apostoli pa nece akti u-ci. 5
- 5 U-ci angeli habe plu ge-ala kefa-ve e pedi-ve. 7
- 6 U banana ko kefa.6
- 9 U parenta de Glosa.11
- 13 Français = maintainant,

- Italiano = adesso, Glosa = ? 2
- 16 Dice penite.7
- 17 U fa de plu inter-akti mero. 7
- 19 Ge-divide per. 2
- 20 Arti de papira-plika.
- 21 Ple-fini. 6
- 23 Pe pote detekt u-ci in butiri. 5
- 24 Na gene u-ci alexi sistema per u miria anti-soma.

Skribe u Glosa verba infra singu English verba laevo. Nexu mu ko alelo te face un alteri Glosa verba dextro.

EXEMPLA:

TOOTH + TREATMENT = Treatment for diseases of the teeth.

ODONTO + TERAPI ODONTOTERAPI  
SMALL + LIVING CELL = Undersized red blood cell.

TOOTH + LEAF = Plants with toothed leaves.

WATER + FEAR = Dread of water

HARD + SKIN = A skin disease.

PRE SOLUTIO: glosa-lalia. stego-saurus. ptero-stigma. pan-orama.

### GLOSA 1000

Glosa 1000 Vokabulari ko plu Glosa mekanika. Glosa-English, Glosa-Deutsch alo Glosa-Français.

Preci ....40p intra Britain  
....50p alo 2 internatio repli kupona extra Britain.

### PLU GLOSA NOTA

Preci inklude posta-precii;  
12 meno intra Britain.....£6  
" plu hetero Europa landa.....£7-20  
USA, Afrika, Kanada, India (per aero)...£9  
" " " (per mari)...£7-20  
Australasia.....(per aero)...£9-60

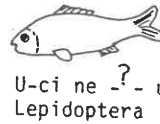
Place mite abono-valuta, plu artikla e plu grama a plu redakto-pe;

Ron Clark & Wendy Ashby  
Glosa, P.O.Box 18, Richmond,  
Surrey, TW9 2AU, Britain.

Horizontal

- 1 Pre poli anua pe pa numera per plu-ci.7
- 4 Mi detekt u-ci; si mi apo u ra ex frakt u tera. 5
- 7 Na merka plu Persika e Idaeus in frukti-?
- 8 Dina atrakti.7
- 10 Mero alo mantela alo Makropus. 5
- 11 Plu hidrofito eko in e proxi u-ci. 5
- 12 Pusi numera de plu monti in legi-ka. 7
- 13 U fi minus substantia.
- 14 Konditio. 2
- 15 Ciklo de plu-ci folia signifi honori. 6
- 18 Enkontra u-ci in speciali triangula.3
- 22 Il es proto meso parietata. 2
- 23 Mero fito celula. 11
- 25 Ge-konfusi prosa es putri. 5
- 26 Panto-na freque skop ad-in u-ci.7
- 27 U-ci panto-tem tena H in se. 5
- 28 Detekti plu mero.7

Vertikal

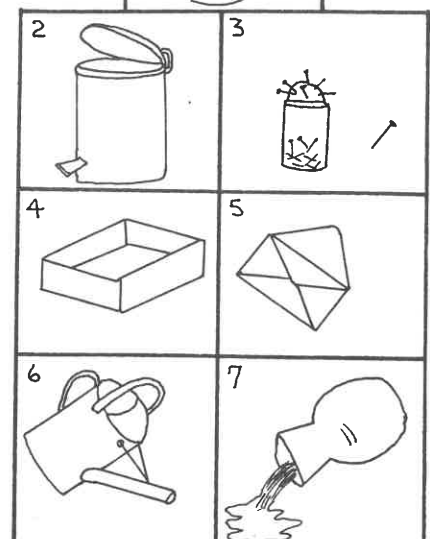
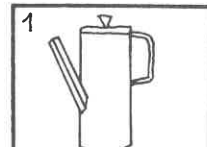


U-ci - ? u Lepidoptera.

U-ci ne - ? - u Lepidoptera

## PLU PRIMA LITERA

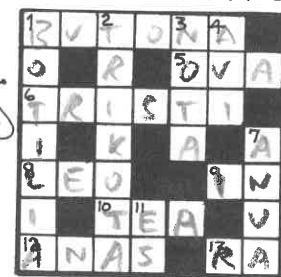
Plu prima litera de plu-ci 7 vasa face u nima de u pluso vasa.



Horizontal



## PIKTO-VERBA 35



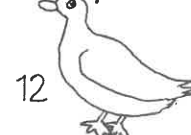
9 Kanis epi teka



Kanis - ? - teka



? - tasa ? - va



12



8



manu- ?

PLU PRE SOLUTIO

Kruci-verba 42. Horizontal; 1, infanti.5, skope.8, aurora.9, kerami.11, imita.12, oviparo.15, ambienta.20, akuto.21, sue.23, titula.24, sti.27, ampula.28, entomo.30, aroga.31, Odonata. Vertikal; 1, imagina.2, Formika.3, norma.4, io.5, speci.6, orama.7, edito.10, konekti.13, plaka.14, re.16, botilia. 17, talento.18, konsola.19, fu.21, spata.22, espio.25, tu.26, poda.29, no.  
PIKTO-VERBA 34. H; 1, magika.5, uro.6, tunela.8, irene.9, karate. V:1, metali.2, gingiva.3, kultela.4, ara.7, nece.  
PLU PRIMA LITERA: Kanis, Afis, Meles, Euglena, Limax, Ursus, Sula. = Kamelus.