

## NACHRUF

**Prof. Dr. Philip Steven Corbet**  
geb. 21. Mai 1929 in Kuala Lumpur, Malaysia  
gest. 13. Februar 2008 in Truro, Cornwall,  
Großbritannien

Am 13. Februar 2008 verstarb in Truro, Cornwall (Südwest-England) im Alter von 78 Jahren völlig unerwartet der international geschätzte britische Entomologe Philip S. Corbet. Schon mit dem ersten Standardwerk zur Biologie und Ökologie der Libellen, welches er 1960 gemeinsam mit Cynthia Longfield und Norman Moore veröffentlichte, spätestens aber mit seinem Buch „A Biology of Dragonflies“ im Jahr 1962, erlangte der damals 31 bzw. 33-jährige Philip Corbet den Ruf einer der bedeutendsten Odonatologen seiner Zeit zu sein. Neben vielen Veröffentlichungen, auch zu anderen Insektengruppen, folgte nach jahrzehntelangen Recherchen im Jahr 1999 seine aufwendigste Arbeit, das 829 Seiten umfangreiche Werk „Dragonflies: Behaviour and Ecology of Odonata“. Dieses Buch gilt seit seinem Erscheinen vielen Entomologen bis heute als „Bibel der Odonatologie“ und trug dem Autor in Anlehnung an seine Lieblingsart *Anax imperator* den wohlwollend gemeinten Titel „Imperator der Odonatologie“ ein. Die Herausgabe seines Werkes in der japanischen Übersetzung, an der ihm sehr viel lag, konnte Phil Corbet noch erleben, die seines letzten Buches „Dragonflies“, das er zusammen mit Stephen Brooks verfasste, leider nicht mehr. Es erschien im Juni 2008 bei Harper Collins, Kanada und beschreibt Vorkommen und Ökologie der Libellen in Großbritannien und Irland. Darin haben beide Autoren ihr Wissen und ihre Erfahrungen eingebracht, um die Relevanz britischer Libellenarten für den Naturschutz und als Bioindikatoren auch unter globalen Aspekten zu erläutern.

Neben seiner hohen wissenschaftlichen Kompetenz war Philip Corbet aber auch ein Schöngest im klassischen Sinn. Er liebte die leichte Literatur und die Musik, letztere nicht nur als Hörereignis sondern auch praktizierend; so spielte er mit Begeisterung Klarinette.

Aber auch in der Philosophie war er sehr beschlagen. Die Neigung zu naturphilosophischen Themen findet sich in Zitatesammlungen zu seinen Werken



wieder, die er den Vorworten oftmals als eine Art Lebenserkenntnisse seiner beruflichen Passion, der Odonatologie, voranstellte. Beobachtungen in der Natur ließen ihn oft nachdenklich, aber auch euphorisch werden. So schrieb er einmal: *“I find it a stirring thought that each day of a dragonfly’s life it must repeatedly choose how it will spend its precious time and energy.”*

Und auch den Themen der Armutsbekämpfung und Bevölkerungsexplosion widmete er sich mehrfach, und zuletzt - möchte man vermuten - wieder verstärkt und vertiefend. Aktuelle, umfangreiche Gedanken hierzu finden sich hierzu auf der homepage der Cornwall Humanists Group, einer Sektion der British Humanist Association (Corbet 2007; siehe auch die Dokumentation seines Vortrages in dieser Ausgabe des IDF-Report). Man möchte spüren, dass eines der Silberhäupter ganz rechts am Tisch des Treffens im Safron in Truro ihm gehören möge.

Welchen Bekanntheitsgrad und populären Stellenwert die Person Philip S. Corbet auch in der britischen Öffentlichkeit einnahm, mögen die umfangreichen und ausführlichen Nachrufe in der seriösen englischen Presse wie z. B. dem INDEPENDENT am 28. Februar 2008 und dem DAILY TELEGRAPH am 6. März 2008 belegen.

## Lebensweg

Philip Steven Corbet wurde am 21. Mai 1929 in Kuala Lumpur (Malaysia; bis 1957 britische Kronkolonie ‘British Malaya’) als ältestes von vier Kindern des Mikrobiologen und Entomologen Alexander Steven Corbet (1896 - 1948) und Irene Corbet (geborene Trewavas; Cornwall) geboren. Der Bruder Nigel verstarb bereits als Säugling an Meningitis, Roger als Fünfjähriger an Diphtherie. - Die Liebe zur Natur und speziell zur Entomologie waren dem erstgeborenen Philip und seiner elf Jahre jüngeren Schwester Sarah, die 1940 in Neuseeland geboren wurde, bereits in die Wiege gelegt worden.



Die Eltern Irene Corbet (geb. Trewavas) und Alexander S. Corbet in Malaysia (1930)  
Foto von Sarah A. Corbet zur Verfügung gestellt

Die Eltern waren 1927 nach ihrer Heirat nach Malaysia gegangen, wo der Vater Alexander Steven am Gummiforschungsinstitut in Kuala Lumpur eine Anstellung als Mikrobiologe antrat. Er war ein begeisterter und bekannter Lepidopterologe. Sein Standardwerk *“Butterflies of the Malay Peninsula”* von 1935, das er gemeinsam mit H. M. Pendlebury verfasste, wurde mittlerweile (1997) in der 5. Auflage herausgegeben.



Im Jahr 1931 waren die Eheleute Corbet mit Philip nach England zurück gegangen. Der Vater nahm eine Stelle am ICI Research Center an, einem Forschungsinstitut für Agrochemie in Jealotts Hill nahe Reading. Später wechselte er an das 'British Museum of Natural History', wo er in der Lepidopteren-Sammlung die Schmetterlinge aus Malaysia bearbeitete und später stellvertretender Kustos der entomologischen Sammlung wurde.



Philip Corbet als Säugling mit Vater Alexander in Kuala Lumpur. Foto von S. Corbet zur Verfügung gestellt.

Während des zweiten Weltkriegs, als sich die Lage sowohl in Europa als auch in Südost-Asien zuspitzte, siedelte die mit Sarah schwangere Mutter 1940 gemeinsam mit ihrem Sohn Philip nach Neuseeland über. In Sorge um die entomologische Sammlung blieb der Vater in London zurück. Erst 1945 mit Ende des Pazifikkrieges kam die Familie wieder zusammen; aber bereits drei Jahre später verstarb der Vater 51-jährig an einem Herzinfarkt. Die Mutter Irene Corbet verstarb 87-jährig im Jahr 1988 in Cornwall, England.

Philip Corbet besuchte ab 1941 in Nelson, Neuseeland, das renommierte "Nelson Boys' College" und fünf Jahre später, nach Übersiedlung (1945) der Familie nach Großbritannien, die "Dauntsey's School" in Devizes, Grafschaft Wiltshire (Südwest England). Nach seinem College-Abschluss nahm er ein Biologie - Studium an der Elite - Universität von Reading („Top Ranking University“) in der Grafschaft Berkshire auf. Er graduierte in Reading als Bachelor in Zoologie, Botanik und Geologie mit Auszeichnung und erhielt den „Colin Morley Prize for Zoology“. Von dort aus ging er 1950 nach Cambridge an das „Gonville and Caius College“ zu Prof. Sir Vincent Brian Wigglesworth, dem wohl renommiertesten Entomophysiologen seiner Zeit, bei dem er 1953 mit dem von ihm selbst gewählten Thema „The seasonal ecology of dragonflies“ promovierte. Auf diese Arbeit wurde dann u.a. James Fisher, der damalige Mitherausgeber der 'New Naturalist Books', aufmerksam. Fisher konnte Philip Corbet dazu bewegen, seine Forschungsergebnisse gemeinsam mit Norman Moore und Cynthia Longfield zu veröffentlichen; 1960 wurde diese gemeinsame Arbeit unter dem Titel „Dragonflies“ herausgegeben.

Im Jahr 1954, wenige Monate nach seiner Promotion, wurde er auf Empfehlung seines Doktorvaters und sicher auch seiner Tante Ethelwynn Trewavas, einer bekannten Ichthyologin, von der 'East African High Commission' vertraglich in



Philip Corbet als 24-jähriger Doktorand  
Foto: von S. Corbet zur Verfügung gestellt.

das damals britische Protektorat Uganda verpflichtet, wo er zunächst bei der 'East African Freshwater Fisheries Research Organisation' am Viktoriasee in Jinja arbeitete. Dort untersuchte er den Nahrungsbedarf von Fischen (mit Ausnahme der Cichliden) in Viktoriasee und -Nil. Weiterhin forschte er sehr detailliert über den Anteil von Insekten am Nahrungsspektrum des Nilkrokodils und beschäftigte sich auch mit Studien zum Verhalten verschiedener aquatischer Insektengruppen.

Drei Jahre später (1957) wechselte er an das 'East African Virus Research Institute' nach

Entebbe (Uganda) zu Alexander John Haddow, einem herausragenden Mediziner und Entomologen, der gemeinsam mit anderen Wissenschaftlern einige Jahre zuvor die Entwicklungszyklen des Gelbfiebers erforscht hatte. Den Kontakt zu Haddow hat wieder sein Doktorvater Sir Vincent Wigglesworth hergestellt, der mit diesem über Jahre zusammengearbeitet hatte. Am Institut in Entebbe avancierte Corbet mit 27 Jahren sehr schnell zum Leiter der feldbiologischen Abteilung. Die Gruppe um Philip suchte nach den Übertragungsvektoren des damals noch weitgehend unbekanntes O'nyong-nyong-Fiebers, einer nonletalen, mitunter sogar inapparenten Arbovirusinfektion, andererseits aber auch mit einem dem Denguefieber ähnlichen Krankheitsverlauf. Die Forschergruppe konnte sehr bald die Stechmücken *Anopheles gambiae* und *Anopheles funestus* als Träger des Virus feststellen. Noch während ihrer Untersuchungen kam es in Uganda und Kenia von 1959 bis 1962 zu einer O'nyong-nyong - Epidemie, von der bis 80% der Bevölkerung betroffen waren. Philip Corbets Hauptaugenmerk lag darin, große Proben von Stechmücken im Regenwald zu sammeln, um externe Weibchenmerkmale zu identifizieren, ohne für die Geschlechtsbestimmung unausgereifter Tiere in einem mühsamen Prozess die Ovariolen im Labor freilegen zu müssen. Er gelangte durch seine Forschungen zu einer Beobachtungsfertigkeit, die ihm ermöglichte Art, Geschlecht und Alter fliegender Stechmücken bestimmen zu können.

Philip Corbet hatte sich durch seine Forschungen in Uganda einen internationalen Ruf erworben, der das 'Canada Department of Agriculture Research' dazu bewog, ihn 1962 für das Entomologische Forschungsinstitut in Ottawa anzuwerben. Die politische Situation in Uganda - nach der Unabhängigkeitserklärung kam es zu blutigen Massakern zwischen verschiedenen Volksgruppen - erleichterte Corbet die Entscheidung diesem Ruf nach Kanada zu folgen, obwohl ihm



noch kurz vorher die Leitung des Instituts in Entebbe angedient worden war. In Kanada widmete er sich zunächst – ähnlich wie zuvor in Uganda - der Fortpflanzungsökologie von Stechmücken. Bei seinen Untersuchungen entdeckte und beschrieb er das Phänomen der ‚fakultativen Autogenie‘, einer bis dahin unbekanntem Fortpflanzungsstrategie bei arktischen Stechmücken. Wenn die Weibchen keine Möglichkeit zur Aufnahme von Wirbeltierblut finden (welches für die Oogenese i.d.R. unablässig ist, in der Arktis aber nicht immer zur Verfügung steht), so sind sie in der Lage wenigstens einige wenige Eier über die eigenen Energiereserven zu produzieren. Diese Strategie konnten Entomologen später auch in anderen Extremlebensräumen feststellen.



Philip Corbet im Alter von 33 Jahren (März 1963 während eines Symposiums an der Universität Purdue in Lafayette, USA) Foto: Harold White

Dass Corbets Aufgaben am Forschungsinstitut in Ottawa teilweise skurrile Ausmaße annahm, belegt der Auftragung, Montreal bis zur Weltausstellung 1967 (EXPO '67) insektenfrei zu bekommen. Insbesondere Stechmücken aus dem St. Lawrence Fluss wurden für die Stadt eine zunehmende Plage. Wie es Philip Corbet gelang dieser Plage Herr zu werden und welche Maßnahmen er dazu ergriff, ist leider nicht bekannt. Allerdings hatte er umfangreiche Erfahrungen in Uganda gesammelt, wie unter anderem auch seine Veröffentlichung von 1958 („Some effects of DDT on the fauna of the Victoria Nile“; s. auch Bibliographie) belegt. Vielleicht ist es diese Aufgabe gewesen, die ihn 1967 dazu bewog, die ihm angebotene Leitung des ‚Canada Department of Agriculture Research Institute‘ (vormals

‚Canadian Institute for Biological Control‘) in Belleville, Ontario, zu übernehmen. Die Direktorenstelle ermöglichte es ihm aber nicht mehr als „Feld- und Vollzeitentomologe“ tätig zu sein, wie er es bisher gewohnt war. Vielmehr zeichnete seine Tätigkeit in dieser Stellung überwiegend ihm ungeliebte administrative Aufgaben aus.

Und dennoch wirkte Corbet auch als Leiter dieses Instituts sehr effektiv. Hauptaufgabe dieser landwirtschaftlichen Einrichtung war es, Methoden zur Bekämpfung von Plagen zu entwickeln und einzusetzen. Er suchte den Einsatz synthetischer und organischer Pestizide in der Landwirtschaft zu reduzieren, wenn möglich sogar ganz zu vermeiden. Möglicherweise war Philip Corbet zu diesem Zeitpunkt (1970) weltweit einer der wenigen, wenn nicht sogar der erste, der versuchte eine Landwirtschaftsbehörde auf einen biologischen Landbau einzuschwören. Seine Arbeit an diesem Institut führte dazu, dass er sich zunehmend mit dem Verhältnis des Menschen zur Natur zu beschäftigte. Er erkann-

te, dass das Bevölkerungswachstum einen zunehmenden Druck auf die natürlichen Ressourcen bewirkte und zu einer Destabilisierung von Ökosystemen führte. (*Bevölkerungswachstum und Nutzung der Ressourcen beschäftigten Philip Corbet ein Leben lang, wie zuletzt sein Vortrag vor der 'Cornwall Humanists' – Gesellschaft belegt. Die von ihm überarbeitete Version vom 21. November 2007 ist in diesem Heft abgedruckt.*)

Corbet unterstützte mit seinen Untersuchungen und Thesen diejenigen Politiker, deren Bestreben es war, Bevölkerungswachstum und die Verfügbarkeit von Nahrungsressourcen über eine ökologisch nachhaltige Landwirtschaft im Gleichgewicht zu halten. Dies kulminierte im Jahr 1971 in einem offenen Brief an den kanadischen Premierminister Pierre Trudeau, unterschrieben von weiteren 25 angesehenen kanadischen Biologen. Der begnadete Wissenschaftler brachte sich damals erstmalig auch als Naturphilosoph in die Politik ein.

Diese Einstellung schien vielen Verantwortlichen nicht adäquat zu sein für die Direktorenstelle einer landwirtschaftlichen Behörde (Ontario wurde zu der Zeit von der 'Progressiv-Konservativen Partei' regiert). Und bevor sich Corbet mit seiner Philosophie einer ökologisch orientierten Landwirtschaft in dieser wichtigen Behörde festsetzen konnte, wurde er weggelobt. Den Ruf auf eine Professorenstelle und als Leiter einer extra für ihn geschaffenen biologischen Abteilung innerhalb der allgemein wissenschaftlichen Fakultät an der damals eher kleinen und unbedeutenden Universität von Waterloo, Ontario, nahm er 1971 an. Er blieb dort, seiner wissenschaftlichen Fähigkeiten und Möglichkeiten beschnitten, nur drei Jahre und nutzte diese Zeit aber auch, um Kontakte zu Odonatologen vor allem in Amerika zu vertiefen.

Im Jahr 1974 nahm er dann einen Ruf als Professor im 'Centre for Environmental Sciences' an der Universität Canterbury und als Direktor der 'Lincoln Landwirtschaftsschule' in Canterbury, Neuseeland, an. Am Lincoln College setzte er sich für die Schaffung eines innovativen zweijährigen Magister-Studiengangs für Ressourcenmanagement ein, der den gut ausgebildeten Absolventen einflussreiche Positionen in Regierungs- und Landwirtschaftsorganisationen ermöglichen sollte. Jedoch veranlasste ihn die aus seiner Sicht ungenügend wissenschaftliche, aber zunehmend politische Position am College zum Rücktritt, um sich ab 1978 ganz seiner Lehrtätigkeit an der Universität von Canterbury zu widmen und wenig später den Lehrstuhl für Zoologie anzunehmen.

Sein bis dahin international erworbenes Ansehen und sein stetiges Engagement für eine biologische Landwirtschaft führten sehr bald dazu, dass er in verschiedene neuseeländische Gremien berufen wurde, so in den staatlichen Umweltrat, als beratendes Mitglied in den Regierungsrat für Kernkraftfragen, in die natio-



nale demographische Gesellschaft und schließlich als neuseeländisches Mitglied in die Exekutive des 'Club of Rome'.

Nicht nur seine Tätigkeiten in Kanada und Neuseeland belegen, dass Philip Corbet ein politisch engagierter Mensch war. Auch später in Großbritannien sollte er sich für den Naturschutz politisch einsetzen.

Nach der Geburt der Tochter Katarina 1978 beschlossen die Eltern nach Europa zurückzukehren. Zwei Jahre später wurde ihm eine Commonwealth-Gastprofessur in der Abteilung für angewandte Biologie an der Universität von Cambridge angeboten, die er auch annahm. Mit diesem Ruf nach Cambridge kehrte er nach 25 Jahren nicht nur nach England zurück, sondern auch an die Universität, die er im Jahre 1954 als damals frischgebackener Doktor der Biologie Richtung Afrika verlassen hatte, und an der mittlerweile seine Schwester Sarah Corbet als Privatdozentin für Entomologie tätig war.

Im Jahr 1980 folgte er dem Ruf an die Universität von Dundee in Schottland auf den Lehrstuhl für Zoologie. Von 1983 bis 1986 war er dann geschäftsführender Direktor der biologischen Fakultät. In dieser Zeit arbeitete er auch im Vorstand des schottischen Naturschutzrats ('Nature Conservancy Council for Scotland'). Corbet emeritierte 1990, was aber nicht einen beruflichen Ruhestand bedeutete. Vielmehr wurde er von der Universität Edinburgh zum Honorarprofessor für Entomologie ernannt. Er blieb bis 1996 an der Universität von Edinburgh, ehe er sich endgültig in den Ruhestand begab und in das klimatisch angenehmere Cornwall übersiedelte, von wo die Familie seiner Mutter stammte, und wohin sich bereits seine Schwester Sarah nach ihrer Pensionierung zurückgezogen hatte. Dort kaufte er sich in Crean eine zum Wohnhaus umgebaute alte Wassermühle („Crean Mill“) – natürlich mit einem Bach und einem Libellenteich. Der Rückzug in den „ewigen Frühling“ an der Südwest-Spitze Englands bewirkte einen erneuten Schaffensschub. Hier entstanden in den letzten elf Jahren 40 seiner rund 200 odonatologischen Veröffentlichungen. Insgesamt hat er im Laufe seines Lebens über 300 Arbeiten zu Fischen, Krokodilen sowie zu Dipteren, Libellen und anderen aquatischen Insekten, Epidemie-Management, Bevölkerungsstatistiken, Ressourcen-Management und arktischem Mikroklima in wissenschaftlichen Zeitschriften veröffentlicht.

Aber Philip Corbet war in den 80er und 90er Jahren des 20. Jahrhunderts als Wissenschaftler nicht nur an universitären Einrichtungen tätig. Sein außerordentlicher wissenschaftlicher Ruf bewirkte, dass er auch als Berater bei FAO (Food and Agriculture Organisation), WHO (World Health Organisation) und in verschiedenen Gremien der EU sehr gefragt war. Und selbst noch im Jahr 2003 reiste er als Experte für medizinische Entomologie im Rahmen eines UNESCO-Programms nach Myanmar an das Department of Medical Research in Yangon, um bei dem



Aufbau dieses Instituts und Fragen der biologischen Kontrolltechniken beratend tätig zu sein.

Neben seinen verschiedenen Tätigkeiten in wissenschaftlichen Vereinigungen setzte er sich, zeitweise in Honorarposition als Geschäftsführer, bis zuletzt intensiv im Rat des 'Cornwall Wildlife Trust' ein, in dem schon seine Schwester Sarah seit ihrer Pensionierung tätig ist.

Philip Corbet war dreimal verheiratet, alle drei Ehen wurden geschieden. Tochter Katarina bekam er mit seiner zweiten Ehefrau. Katarina studierte der Tradition der Familie folgend ein naturwissenschaftliches Fach (Geographie), ehe sie ihren Faible zur Kunst verwirklichte. Sie studiert derzeit an der Kunsthochschule Kassel (Deutschland).



Philip Corbet at St. Loy's Cove, Penzance, Foto: S. Corbet

Philip Corbet erlitt bereits 2001 einen leichten Infarkt, von dem er sich aber vollständig erholen konnte. Ein erneuter, diesmal schwerer Herzinfarkt, den er in St. Buryan beim Einkaufen erlitt, führte wenige Stunden später im Krankenhaus von Truro zu seinem schnellen Tod. Der Leichnam Philip Steven Corbets wurde am 25. Februar 2008 im Krematorium von Truro eingeäschert. Die Trauerfeier fand am selben Tag in der St. Uny's Kirche in Lelant, nahe St. Ives, Cornwall, statt.

## Auszeichnungen und ehrenamtliches Engagement

Zweifelsohne sind als höchste Auszeichnungen die Berufungen in verschiedene beratende Gremien Neuseelands, der EU und der UNO zu bewerten. Diese Tätigkeiten sind auch Ausdruck einer internationalen Wertschätzung des Wissenschaftlers und Menschen Philip Corbet.

Weitere für ihn sehr wichtige Auszeichnungen waren die Verleihungen der Doktorwürden durch die Universitäten von Reading (1962), Cambridge (1976), Edinburgh (2003) und Dundee (2005).

Bereits während seiner Studienzeit an der Universität von Reading erhielt er mit dem „Colin Morley Prize for Zoology“ seine erste Auszeichnung (s.o.).





Philip Corbet ehrenamtliches Engagement vor allem für den Naturschutz findet seinen Anfang bereits sehr früh. Kurz nach seiner Ankunft in Kanada trat er 1962 der 'Entomological Society of America' (ESA) bei, wenig später der 'Entomological Society of Canada', in die er 1977 als ständiges wissenschaftliches Mitglied berufen wurde. Zuvor war er von 1971 bis 1972 deren Präsident. 1974 erhielt er die Goldene Ehrenmedaille der 'Entomological Society of Canada' für hervorragende Verdienste.

Im Jahr 1967 wurde Corbet ebenfalls als ständiges wissenschaftliches Mitglied in das kanadische 'Institute of Biology' aufgenommen, eine Auszeichnung, die mit ehrenamtlichen Tätigkeiten verbunden ist.

Bereits 1981, kurz nach seiner Ankunft in Schottland, wurde er in den Wissenschaftsrat des 'Scottish Wildlife Trust' gewählt, dessen Vorsitz er wenig später übernahm.

Im Jahr 1983 stand er als erster Präsident der neu gegründeten 'British Dragonfly Society' (BDS) voran. Die Gründung einer solchen nationalen Gesellschaft hatte Philip Corbet mit initiiert.

Seine Arbeit für den 'Cornwall Wildlife Trust', dem er seit 1996 angehörte, war zuletzt gekennzeichnet durch seine Position als Vorsitzender des Komitees für die Entwicklung von Naturschutzstrategien.

Philip Corbet war Ehrenmitglied in verschiedenen odonatologischen Gesellschaften, so in der 'British Dragonfly Society' (seit 1991), der 'Société Française d'Odonatologie' (seit 1997) und der 'Dragonfly Society of the Americas' (seit 2002).

Philip unterstützte Zeit seines Lebens jüngere Kollegen und versuchte auch das Interesse von Jugendlichen für Libellen zu fördern. Die BDS hat daher gemeinsam mit Philip Corbet den 'Philip Corbet Award Fund' ins Leben gerufen. Aus diesem Fond werden odonatologische Arbeiten junger Odonatologen (Förderalter maximal 25 Jahre) mit bis zu 320,00 jährlich unterstützt.

Lange Jahre war Corbet Mitglied im Vorstand der Societas Internationalis Odonatologica. Zwischen 1989 und 1991 war Philip President-Elect, jedoch führten erste Zerwürfnisse innerhalb des S.I.O.-Vorstandes dazu, dass er sich 1991 nicht mehr der Wahl zum Präsidenten der S.I.O. stellte.



Von 2001 bis 2003 stand er als Präsident der 'Worldwide Dragonfly Association' (WDA) voran, an deren Gründung 1997 er wesentlichen Anteil hatte.

Philip Corbet war seit 1985 aber auch Mitglied der 'Royal Society of Tropical Medicine and Hygiene', wenn auch die Gesellschaft einen überwiegend medizinischen Arbeitsschwerpunkt verfolgt.

Im Jahr 1987 wurde er auf Empfehlung in die Royal Society of Edinburgh (RSE) aufgenommen. Die Gesellschaft setzt sich zusammen aus verdienten Persönlichkeiten aus Wissenschaften, Künsten, sozialen Berufen, Industrie und Handel. Die RSE fördert insbesondere nationale und internationale Forschungsprojekte. Ein weiterer Schwerpunkt liegt in der Förderung von Schülern und Studenten sowie junger Forscher. Sein Buch „Dragonflies: Behaviour and Ecology of Odonata“ war letztlich auch der Grund, dass ihm von der Royal Society of Edinburgh 2002 die 'Neill Medaille' für hervorragende naturwissenschaftliche Veröffentlichungen verliehen wurde.

Es ist nur wenigen bekannt, dass Phil Corbet 1991 auch als Mitglied in die 'Royal Society of Arts' aufgenommen wurde. Oberstes Ziel dieser Gesellschaft ist es „über eine umfangreiche und gezielte Aufklärung die Hindernisse für einen sozialen Fortschritt zu überwinden“. Die Gesellschaft unterstützt, initiiert und finanziert insbesondere Forschungsprojekte in allen Wissenschaftsrichtungen.

Philip Corbet zu Ehren wurden zwei Libellenarten und eine Unterart benannt:

*Microgomphus schoutedeni corbeti* Pinhey, 1961

Die neue Unterart wurde von Pinhey nach Dr. P. Corbet benannt, da dieser selbst die Typen nahe eines Wasserfalls am bewaldeten Ufer des Sezibwa Rivers auf halber Strecke zwischen Jinja und Kampala (Uganda) gesammelt hatte.

*Agriocnemis corbeti* Kumar & Prasad, 1978

Die Coenagrionide wurde erstmals von Arun Kumar und Mahabir Prasad am 10. März 1976 in Badripur im Dehra Dun Tal, Indien, gefangen und 1978 erstbeschrieben. Beide Autoren widmeten die Art Philip Corbet (damals Neuseeland) aus Dank für das Interesse an der Biologie der Libellen, welches er bei ihnen geweckt hatte, und seine stetige Unterstützung bei ihren Studien.



*Gynacantha corbeti* Lempert, 1999

Diese Aeshnide wurde von Jochen Lempert erstmals am 28. August 1993 am Gombak River in West-Malaysia gefangen. Lempert beschrieb die Art dann erst 1999 und benannte sie zu Ehren Philip Corbets zu dessen 70. Geburtstag.

## Der Odonatologe

Das Interesse und die Liebe zur Natur wurden bei Philip Corbet und seiner Schwester Sarah bereits in ihrer frühen Kindheit überwiegend vom Vater geweckt. Und wie zuvor der Vater sollten beide später ebenfalls in der angewandten Entomologie als Ökologen arbeiten, Sarah als anerkannte Hymenopterologin im Bereich der Bedeutung der Bestäubungsökologie für die Landwirtschaft, und Philip zunächst in der medizinischen Entomologie, später in der epidemiologischen Entomologie ebenfalls in der Landwirtschaft. Aber bereits sein Großvater betrieb die Entomologie "als Hobby", und seine Tante mütterlicherseits, Ethelwynn Trewavas, war als renommierte Ichthyologin am 'British Museum of Natural History' tätig. Vieles deutet also darauf hin, dass ihm die biologischen Wissenschaften von vornherein "im Blut lagen".

Philip Corbet hat sich während seiner beruflichen Laufbahn überwiegend in der angewandten Entomologie Meriten verdient, die Odonatologie blieb ihm dabei aber immer eine geliebte und intensiv betriebene Beschäftigung, die er - wann immer möglich - in seine institutionellen Aufgaben mit einband. Seine erste Veröffentlichung überhaupt hatte Odonaten zum Thema. Bereits als 17-Jähriger beschäftigte er sich mit dem Einsatz von Libellen zur biologischen Kontrolle.

Seine ersten intensiven Feldstudien über Libellen begann er mit Übersiedlung der Familie nach England Ende der 1940er Jahre. Seine zweite Veröffentlichung war eine faunistische Arbeit zur lokalen Libellenfauna. Als Corbet anfang, die Lebenszyklen von britischen Libellen zu studieren, war über die Biologie dieser Gruppe sehr wenig bekannt. Mit Norman Moore war er der Erste, der Beobachtungen im Feld mit gut gestalteten Versuchen im Labor verband und analysierte. In seiner Dissertation zeigte er, dass britische Libellen in zwei Gruppen eingeteilt werden können. Die eine Gruppe beendet ihr Larvenwachstum im Herbst und schlüpft dann fast synchron im Frühjahr. Die andere überwintert als Larve in verschiedenen Stufen des Wachstums und schlüpft im Frühjahr bis Sommer meist über viele Wochen verteilt. Dieses Schema wird heute noch, wenn auch in detaillierterer Form verwendet.



Corbet war ein geduldiger und geschickter Feldentomologe. Um den Schlupf von Libellen beobachten zu können, suchte er die Gewässer bereits sehr früh und in totaler Dunkelheit auf. Er war sicherlich auch deswegen der erste, der den Massenschlupf bei *Anax imperator* beschrieb. Diese Beschreibungen waren mitunter zwar sehr blumig, fast lyrisch, aber doch sehr genau und detailliert („...the branches and trunks of trees thickly festooned with motionless dragonflies, each with its glistening wings folded over its back. An hour before sunrise, they simultaneously began to rustle and vibrate their wings with an eerie whirring sound; and, still before the sun rose, the air seemed filled with ghost-like dragonflies, rising up into the mist and flying away out of sight...“).

Philip Corbet war überwiegend Ökologe. Der Schwerpunkt seines odonatologischen Interesses lag in Untersuchungen zur Biologie und zum Verhalten von Libellen, wobei es sein Bestreben war, komplexe Zusammenhänge zu erforschen und zu verstehen. Corbet war kein Taxonom. Die Systematik interessierte ihn nur dann, wenn Arttrennungen nachweisbar über Verhaltensänderungen aufgrund ökologischer Adaptionen erfolgten. Nick Donnelly schreibt in seinem Nachruf sehr treffend: „Corbet’s interests seemed to span the entire world of Odonata - behavior, life history, etc. - everything but taxonomy. Such was his charm and enthusiasm that you never missed that he ignored this aspect of odonates throughout his entire life.“

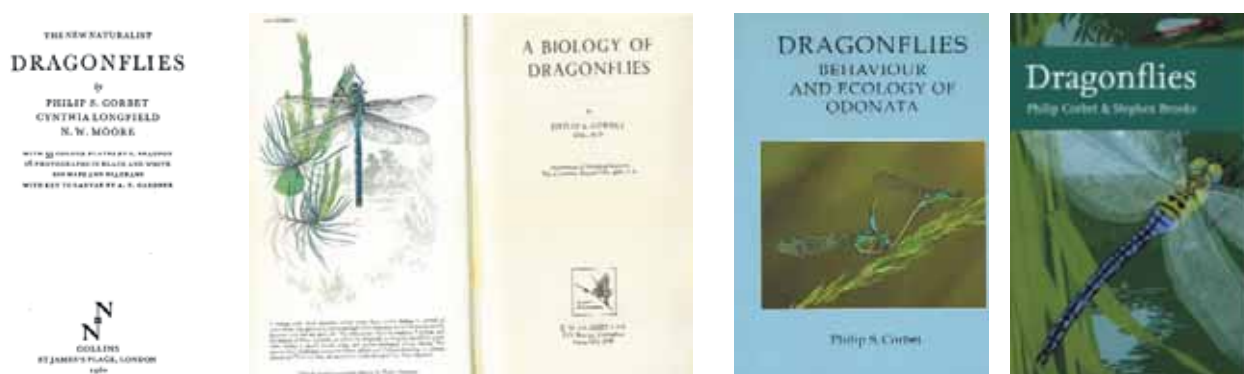
Philip Corbet war der erste Odonatologe, der komplexe Untersuchungen zur Entwicklung von Libellenlarven in Phytotelmata anstieß. Bereits in Afrika hatte er erste Beobachtungen zu Libelluliden gesammelt, die ihre Eier in pflanzlichen Wasserspeichern ablegten. Zwar hatten zuvor schon Leicester (1903), Calvert (1910), Varga (1928) und Lieftinck (1954) über Odonaten in Phytotelmen berichtet, aber Corbet untersuchte als erster 1958 gezielt das Vorkommen von *Hadrothemis camarensis* in Bambus-Röhren in Uganda und später auch von *Hadrothemis scabrifrons* in wassergefüllten Baumhöhlen. Seine Veröffentlichungen zu dieser bisher unbeachteten Fortpflanzungsstrategie inspirierte ab Ende der 80er Jahre die Entomologin Ola Fincke zu Forschungsprojekten vor allem in Mittelamerika, speziell an Vertretern der Mesostigmatidae.

Neben den drei bedeutenden odonatologischen Standardwerken „Dragonflies“ (1960; gemeinsam mit Cynthia Longfield und Norman W. Moore), „A Biology of Dragonflies“ (1962) und „Dragonflies: Behaviour and Ecology of Odonata“ (1999) sowie zahlreichen weiteren Veröffentlichungen zeichnete Philip Corbet auch das Bestreben aus, Odonatologen zusammenzuführen. So war er (Co-)Initiator und oft auch Gründungsmitglied zahlreicher Vereinigungen wie der ‘British Dragonfly Society’ (BDS) sowie zuletzt der ‘Worldwide Dragonfly Association’ (WDA) im Jahr 1997 in Maribor, Slowenien, deren konstitutionelle Sitzung im



September 1997 in Purley (England) stattfand. Nach Spaltung der S.I.O. war Corbet der stimmengewichtigste Befürworter für die Gründung einer neuen internationalen Odonatologen-Vereinigung. Möglicherweise hätte die WDA ohne Philip Corbet niemals aus der Taufe gehoben werden können. Von der ersten Ausgabe des Journals der WDA ("Pantala – The International Journal of Odonatology" ab 2002 "IJO - International Journal of Odonatology") bis zuletzt gehörte er dem wissenschaftlichen Beirat an. Philip S. Corbet war von Beginn an der "Archivist" der WDA.

Er "formte" durchaus den Ablauf odonatologischer Symposien. So wurden die "Current Topics" ein fester Bestandteil eines jeden Kongresses, an dem er teilnahm. Zu Beginn einer Plenarsitzung wurden Themen vorgegeben, zu denen jeder Teilnehmer seine persönlichen Beobachtungen und Erfahrungen einbringen konnte. Diesen "Current Topics" wurde ein breites Spektrum eingeräumt, und die Diskussionen waren meist über mehrere Stunden angesetzt.



Die vier wichtigen odonatologischen Werke von Philip Corbet: "Dragonflies" (1960; gemeinsam mit C. Longfield u. N. Moore), "A Biology of Dragonflies" (1962), "Dragonflies: Behaviour and Ecology of Odonata" (1999) und das gemeinsam mit Stephen Brooks verfasste Buch "Dragonflies"

Die gedruckte Wiedergabe dieser Erörterungen hielt sich – und das war eine der Besonderheiten – an das gesprochene Wort. Vor dem Symposium in Maribor 1997 erfolgte ein abrupter Bruch, nachdem sich Philip Corbet aus der S.I.O. zurückgezogen hatte, wobei erste Anzeichen einer Loslösung vom Führungsgremium der S.I.O. bereits 1991 während des Symposiums in Trevi (Italien) feststellbar waren. In der WDA initiierte er dann eine ähnliche Reihe als "plenary seminar", wobei er die Diskussionsführung öfter in die Hände Themenkompetenter Kollegen legte. Die über Jahre gesammelten 'current topics' bildeten eine wichtige Grundlage für seine beiden letzten Werke.

Philip Corbet war Mitglied in zahlreichen odonatologischen Vereinigungen, so seit 1991 – spätestens aber seit Anfang 1992 [dies konnte nicht mehr exakt recherchiert werden] auch in der Gesellschaft deutschsprachiger Odonatologen (GdO). Dreimal nahm er an den Jahrestagungen der GdO teil: erstmals 1993 auf



Initiative und Einladung durch Jürgen Ott in Kaiserslautern mit einem Vortrag zum Thema 'Libellen als Bioindikatoren' ("Are Odonata usefull as bioindicators?"), ein weiteres Mal ein Jahr später in Höxter mit einem Workshop ("Some aspects of recent odonatological survey and perspectives of further research and means of species-protection") und schließlich 2002 in Worms ("Recent developments in odonatology").

In Anbetracht seiner früheren Tätigkeiten als angewandter Entomologe und seine erste Veröffentlichung als 17-Jähriger (s.o.) brachte er Libellen verhältnismäßig spät (1990) als Bioindikatoren und im Rahmen biologischer Kontrollen gezielt ins Gespräch. So stellte er 1999 fest: *"...that Odonata can indeed play a useful role as indicators of general habitat quality..."*. Ein Jahr später (2000) veröffentlichte er eine Arbeit mit dem Titel 'Use of odonate larvae for biocontrol of insect pests', in der er sich über die Möglichkeiten des Einsatzes von Libellenlarven bei der Kontrolle von Mückenplagen in tropischen Regionen auslässt. Von 1988 bis 1990 hatte er gemeinsam mit A. Sebastian, M.M. Sein und M.M. Thu vielversprechende Versuche in Burma begonnen, und auch während seiner Reise 2003 nach Burma (Myanmar) für die UNESCO (s.o.) galt diese Möglichkeit der biologischen Kontrolle seinem Hauptaugenmerk.

Insbesondere sein Buch "A biology of dragonflies" hat in den 80er und 90er Jahren des letzten Jahrhunderts eine wachsende Anzahl junger Studenten und Biologen dazu motiviert sich mit odonatologischen Themen zu beschäftigen. Insbesondere Verhaltensstudien an Libellen erfuhren in dieser Zeit eine regelrechte Studienflut. Viele Diplom- und Doktorarbeiten in Deutschland, aber auch weltweit, wären ohne Philip S. Corbet und sein Standardwerk nie geschrieben worden. An vielen dieser Arbeiten war er zumindest indirekt, oft aber auch direkt beteiligt, wie die Erwähnung des Namen 'Corbet' in vielen Danksagungen belegt. Sein letztes Standardwerk „Dragonflies: Behaviour and Ecology of Odonata" steht dem in Nichts nach, wie die mittlerweile 2. Auflage in nur acht Jahren zeigt.

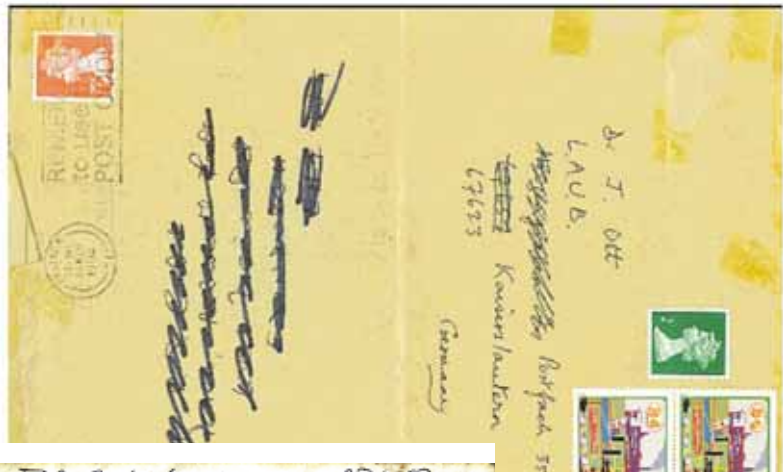
### **Der Mensch Philip Corbet**

Viele Odonatologen brachten Philip Corbet bei einem ersten persönlichen Kennenlernen eine oft ängstliche Ehrfurcht entgegen, zu groß war die Aura um ihn, die ihm seine wissenschaftliche Tätigkeit, insbesondere aber sein Buch "A biology of dragonflies" verliehen hatte. Und genau diese Ehrfurcht lehnte er ab. Er verlangte Respekt. Den gleichen Respekt, den er unvoreingenommen jedem anderen entgegenbrachte.



XI INTERNATIONAL SYMPOSIUM OF ODONATOLOGY  
TREVISO, PERUGIA, AUGUST 18-25, 1981

Philip S. Corbet  
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University of California, Berkeley  
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Prof. T.S. Corbet 25.6.97

Dear Philip,  
How are you? I hope the things with your book are running well!

- ① Did you get my letter with the measurements of peralta? Also I would like to ask, if you know when the prints will have finished the photo - likes for your book, because it could be that I need
- ② back my photo in October. But I don't worry, it's not too urgent!
- ③ I hope to see you in Maribor, but regards,

Your sincerely,  
Werner

27.6.97

Dear Werner

Many thanks for sending me the attractive and useful Red List book for the Odonata of Schleswig-Holstein.

- ① Yes: thank you for responding so promptly.
- ② Your photo will be Plate L.6. Will it be soon enough for you if I write to the publisher (who now have the photograph) to ask them to send it back to you by October? If this will be difficult or too soon for them would you be able to send it back to them again after you have used it in October? Please advise me of your needs.
- ③ I regret I shall not be in Maribor. I shall be too busy with the final stages of my book.

With warm regards, Yours Philip

15.4.97

Dear Werner,  
I am hoping that you can send me the original of this beautiful photograph, or else tell me with many thanks, and best wishes

Philip

Professor Philip S. Corbet  
Case Mail, Dept. of Entomology  
University of California, Berkeley  
Berkeley, CA 94720, U.S.A.  
Phone and fax: 510/754-8103

Behavior and Ecology  
by Philip S. Corbet

Photographic material

Below I describe one or more photographs, taken to reproduce in this book. If the description I give is not sufficient to identify the photograph, please tell me. To reproduce each photograph satisfactorily I need to possess the original, or if that is not possible, a high-quality copy (as far as I know) the ORIGINAL (O) or a HIGH-COPY (H). If I have a copy but you are able to lend me the original, please improve the quality of the resulting illustration. If you send me the original, I may only possess a PRINT (P) of a photograph, or the original negative, or the original transparency, of the photograph. As with the accompanying permission form, I need to receive any later than 28 February 1997. Thank you very much for your valued help, now and in the past. I feel honoured to be able to include photographic material from you

2.1 January 1997

Plate No. L.6 Aeshna peralta. Mature male. (C)

Briefe von Philip Corbet besaßen eine gewisse Originalität; oft nutzte er kleine Zettel, und Briefe wurden oft auf demselben Anschreiben beantwortet, ebenso wie Umschläge mehrfach verwendet wurden

Philip S. Corbet war auf seine Art eine außergewöhnliche und facettenreiche Person - und doch keine schillernde Persönlichkeit. Er war ein ruhiger, überlegter und überlegener Mensch, der niemals aufdringlich wirkte, aber durchaus nicht introvertiert war, vielmehr sehr nahbar. Und genau dieser Wesenszug ließ ihn beim Umgang mit anderen immer so "groß" erscheinen.



Man hatte oft das Gefühl, dass er gezielt auf junge Kollegen zuing und sich derer eher annahm, als den älteren "Platzhirschen". Philip Corbet besaß eine natürliche Abneigung gegen Überheblichkeit, Besserwisserei und Arroganz. Im Gegensatz zu den meisten anderen aber reagierte er darauf sehr feinfühlig und zurückhaltend ohne seinem Gegenüber vor den Kopf zu stoßen. In der Folge mied er Kontakte zu Menschen, denen er aufgrund solcher Eigenschaften abgeneigt war. Er besaß einen ausgesprochenen, geradlinigen Gerechtigkeitssinn, der es ihm meist nicht erlaubte von ihm empfundene Ungerechtigkeiten auf diplomatischem Weg entgegenzutreten. Diese ihm eigenen Wesenszüge waren letztlich ausschlaggebend dafür, dass er der S.I.O. den Rücken zukehrte. Um die vielen S.I.O.-Mitglieder, die ihn nicht nur schätzten, sondern mit denen er z.T. auch befreundet war, nicht zu enttäuschen, war er eine der treibenden Kräfte für die Gründung einer neuen und „gerechten“ Odonatologen-Vereinigung (was allerdings auch dazu führte, dass viele Odonatologen nun zwischen den Stühlen oder auf zwei Stühlen saßen).

Er scheute Konflikte, ging diesen aus dem Weg und wendete sich ihnen oft ab, was sicherlich auch seinen Lebensweg kennzeichnete, und unter anderem oft, allerdings nicht ausschließlich, ein Auslöser für seine häufigen Loslösungen von Lebenspartnern (darunter drei Ehen) und Arbeitsverhältnissen war.

Seine Reisefreude entsprang sicherlich einer ständigen Suche nach neuen Aufgaben und Herausforderungen, wobei er eine einmal angenommene Aufgabe aufgrund seiner Zielstrebigkeit nie ungelöst zurückließ.

Philip Corbet liebte Cornwall, die Heimat seiner Mutter, fühlte sich aber eher als Schotte (die Familie väterlicherseits stammte aus Schottland). Er war ein Brite alter Schule, weltoffen und äußerst gebildet. Philip S. Corbet besaß einen unvergleichlichen Charme – und er war ein Charmeur, dem manche Frau nicht widerstehen konnte. Amerikanische Kollegen nannten ihn "gentleman Philip" und aufgrund seiner gepflegten sowie genauen Sprache wohlwollend auch "wordsmith Philip". Er besaß das unvergleichliche Talent, nüchterne wissenschaftliche Fakten und Analysen spannend wiederzugeben und seine Leser mit vermeintlich „trockenen“ Themen fesseln zu können. Es war ein Genuss ihm zuzuhören, wobei persönliche Gespräche allerdings schnell zu Monologen des Gesprächspartners genierten. Denn Philip war immer wissbegierig und stellte ständig Fragen. Und er war ein ausgezeichnete Zuhörer. Philip Corbet förderte fast bedingungslos junge Odonatologen, wovon auch viele junge deutsche Kollegen profitieren durften. Die Korrespondenz mit ihm war grundsätzlich lehrreich und ein Erlebnis, gerade auch deswegen, weil zu Zeiten der „snail mails“ seinen Briefen eine gewisse Originalität nicht abgesprochen werden konnte. Es war eine Gepflogenheit, dass Philip Umschläge - und selten sogar Briefpapier – mehrfach





verwendete. So konnte man mitunter nachvollziehen, mit welchen Personen er zuvor Briefkontakt hatte. Kurios wurde es dann, wenn als Briefpapier ein alter Einkaufszettel erhalten musste. Das war kein Ausdruck der Missachtung, im Gegenteil: diese Originalitäten erlaubte er sich nur bei ihm vertrauten Personen. Und es war auch kein Ausdruck von übertriebener Sparsamkeit (obwohl er ein materiell sehr sparsamer Mensch war), vielmehr tat er dies im Bewusstsein der Schonung natürlicher Ressourcen, für deren Schutz und maßvolle Nutzung er sich Zeit seines Lebens eingesetzt hatte (s.o.).

Philip Corbet war aber durchaus auch ein Genussmensch. So liebte er einen guten Tropfen, vornehmlich Whisky. Einem Freund gegenüber erwähnte er einmal, dass er gerne abends im Garten bei Musik zur Entspannung noch ein Glas Glenfiddich zu sich nehmen würde.

Mit Philip Steven Corbet hat uns nicht nur ein großer Naturwissenschaftler, sondern auch ein großartiger Mensch auf immer verlassen.

### **Danksagung**

Wir danken John C. Abbott, Thomas W. Donnelly, Reinhard Jödicke, Ulrike Krüner, Jürgen Ott, Werner Piper, Klaus Reinhardt und Harold White für die Bereitstellung von Informationen und Fotos. Unser ganz spezieller Dank gilt Sarah A. Corbet, die uns nicht nur Fotos und Informationen aus dem Leben ihres Bruders zur Verfügung stellte, sondern auch kritisch auf Fehler im Manuskript hinwies.

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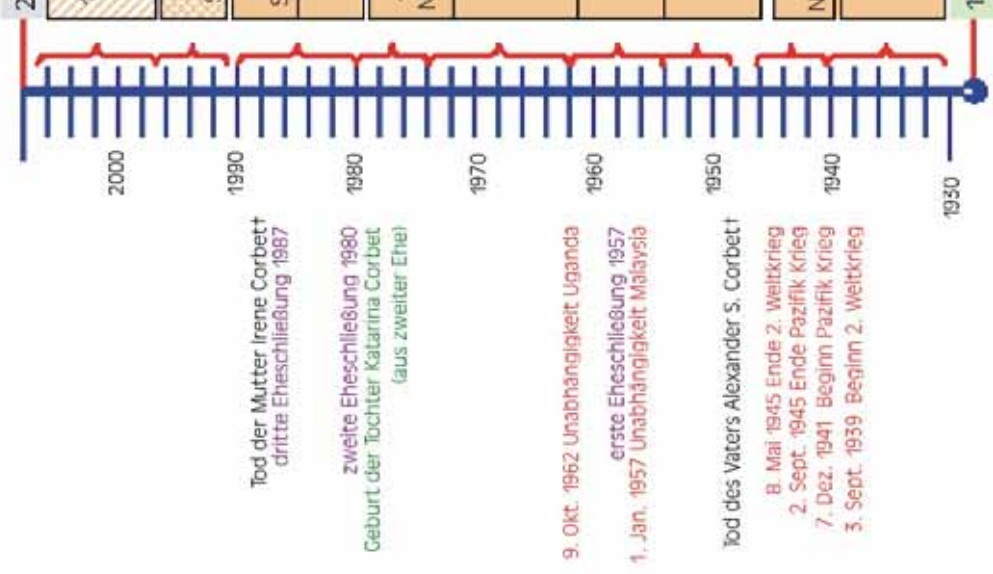
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Zeittafel

wichtige Ereignisse



beruflicher Lebensweg

2008	am 13. Februar 2008 verstorben in Truro, England
1996 - 2008	seit 1996 endgültig Pensionär mit Wohnsitz in Crean, Cornwall
1990 - 96	1990 - 96 Honorarprofessor für Entomologie an der Universität von Edinburgh
1980 - 90	1980 - 90 Prof. für Zoologie an der Universität von Dundee (ab 1990 Emeritus)
1979 - 80	1979 - 80 Gastprofessor an der Universität von Cambridge
1974 - 79	1974 - 79 Direktor des Joint Centre for Environmental Studies u. Prof. am Lincoln Agricultural College, Canterbury
1962 - 74	1962 - 74 Prof. f. Zool. an der Universität von Canterbury
1954 - 62	1962 - 67 Entomology Research Institute in Ottawa 1967 - 71 Direktor des Canada Department of Agriculture Research Institute in Belleville 1971 - 74 Professor für Biologie an der Waterloo University in Ontario
1949 - 53	1954 - 57 East African Freshwater Fisheries Research Organisation in Jinja 1957 - 62 East African Virus Research Institute in Entebbe
1941 - 45	1945 - 46 Dauntsey's School, Wiltshire, England 1946 - 50 Reading University 1950 - 53 Corville and Caius College, Cambridge. Promotion bei Prof. Wigglesworth
1931 - 40	1941 - 49 Schulbesuch des Nelson Boys' College in Nelson
1929	am 21. Mai 1929 geboren in Kuala Lumpur, Malaysia

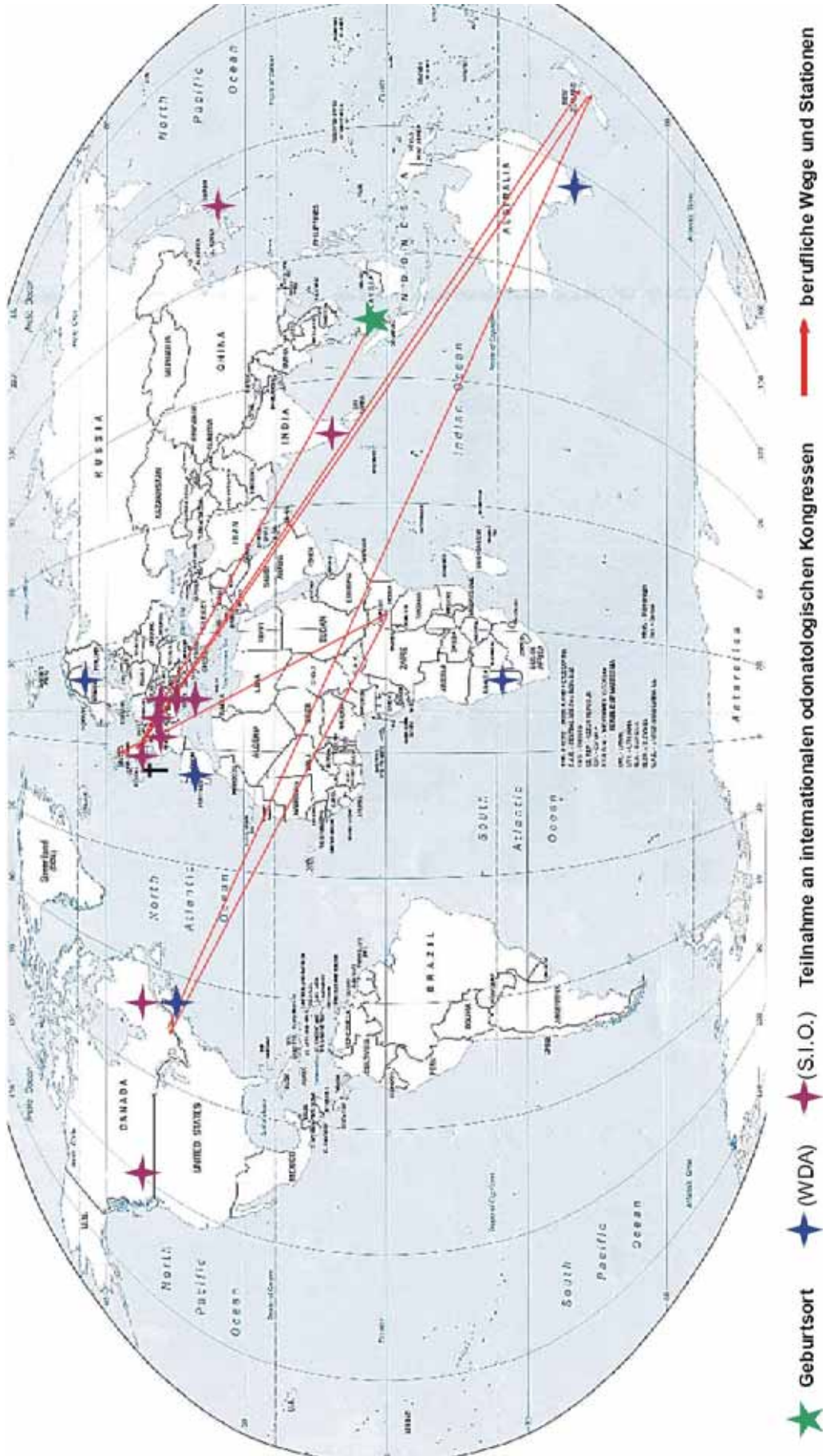
odonatologisches Wirken

- sein letztes Buch „Dragonflies“, das er gemeinsam mit Stephen Brooks verfasste, erscheint nach seinem Tod im Mai 2008
- 1999 erscheint das Standardwerk „Dragonflies: Behaviour and Ecology of Odonata“
- seit 1997 Ehrenmitglied der Société Française d'Odonatologie
- 1995 Gründungsmitglied der 'WDA'
- seit 1991 Ehrenmitglied der 'British Dragonfly Society'
- 1983 Gründungsmitglied der 'British Dragonfly Society' und deren Präsident
- 1962 erscheint sein Buch „A Biology of Dragonflies“
- 1960 gemeinsam mit Cynthia Longfield u. Norman W. Moore das erste Standardwerk „Dragonflies“
- 1953 wird seine Doktorarbeit „The seasonal ecology of dragonflies“ veröffentlicht

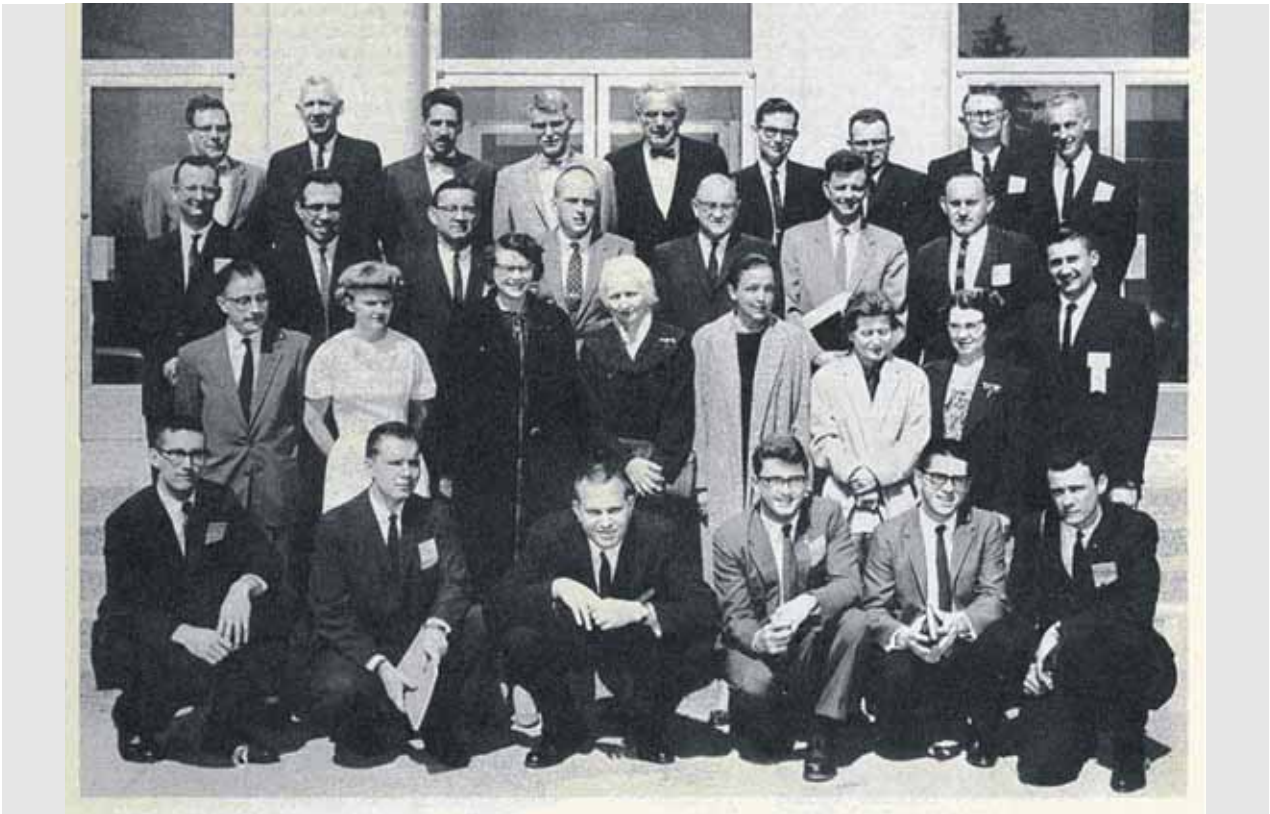




Der Weltbürger Philip S. Corbet - internationale Stationen seiner beruflichen und odontologischen Tätigkeiten



## Fotogalerie



Teilnehmer des von B. E. Montgomery organisierten ersten amerikanischen Odonatologen Symposium 1963 in Lafayette (Indiana, USA) Foto: *George Beatty*  
 Vordere Reihe (L-R): Harold B. White III, James K. Ettman, R. Duncan Cuyler, J.A.L. Watson, William Lease, Charles N. Boehms. - Zweite Reihe (L-R): Merle E. Jacobs, Neva L. Currie, Emilie J. Alward, Leonora K. Gloyd, Alice Ferguson Beatty, Juanda C. Bick, Mary Davis Ries. - Dritte Reihe (L-R): Thomas W. Donnelly, Robert W. Alrutz, Minter J. Westfall, Jr., Oliver B. Flint, B. Elwood Montgomery, Phillip S. Corbet, Charles E. Jenner, Jerry M. Macklin. - Hintere Reihe (L-R): Carsten Ahrens, George H. Bick, George H. Beatty, Donald J. Borrer, Paul D. Harwood, C. Lifford Johnson, Robert B. Cummings, Paul Lutz, George Eller.



Philip Corbet am 26. Juli 1985 im Moor von Dykehead, Angus, Schottland  
 Foto: *Harold White*



Während des XI. Symposium der S.I.O. 1991 in Trevi, Italien; links im Gespräch mit Carlo Utzeri und Michael Parr, rechts beim traditionellen "toasten" mit Carlo Utzeri während des S.I.O.-Dinners *Fotos: Werner Piper*



Während des XII. Symposium der S.I.O. 1993 in Osaka, Japan; links Hidenori Ubukata  
*Foto: N. N.*



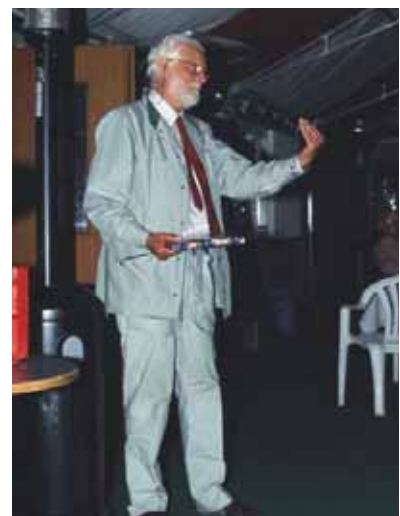
Philip S. Corbet gemeinsam mit seiner damaligen Lebensgefährtin Frieda Tchaikosky zu Besuch in Stelzenberg bei Jürgen Ott im März 1994  
*Foto: Jürgen Ott*



Während des 1. European Dragonfly Workshop im Februar 1999 auf Gut Sunder, Meissendorf Foto: N. N.



Während des 1. WDA Symposium 1999 in Hamilton, New York, USA; links zusammen mit seiner Lebensgefährtin Sarah Jewell Fotos: Werner Piper u. John Hubbard



Während des 2. WDA Symposium 2001 in Gällivare, Schweden; links im Gespräch mit Jill Silsby Fotos: Hidenori Ubukata and Reinhard Joedicke





Während des 3. WDA Symposium 2003 in Beechworth, Australien  
*Foto: Reiko Watanabe*



Während des 4. WDA Symposium 2005 in Pontevedra, Spanien *Fotos: Joachim Hoffmann*



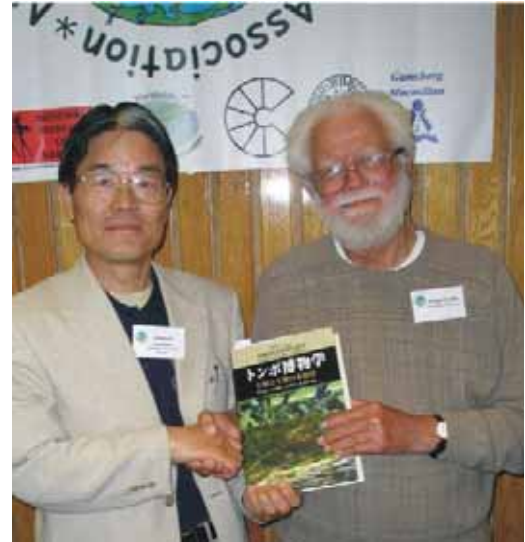
Während der  
Tagung der SFA  
(Société Française  
d'Odonatologie)  
2005 in Frankreich  
*Fotos: Jürgen Ott*





Philip Corbet und seine letzte Lebensgefährtin Sarah Jewell in Swakopmund, Namibia, während des 5. WDA-Symposium im April 2007

*Foto: John C. Abbott*



Überreichung der japanischen Edition seines Buches an Philip Corbet durch Hidenori Ubukata während des 5. WDA Symposium in Swakopmund, Namibia, April 2007

*Foto: N. N*



Eines der letzten Fotos von Philip S. Corbet aus dem August 2007

*Foto: N. N.*



St. Uny's Kirche in Lelant, UK; hier fand am 25. Februar 2008 die Trauerfeier statt.

Wir danken John C. Abbott, Thomas W. Donnelly, Reinhard Jödicke, Jürgen Ott, Werner Pieper, Klaus Reinhardt und Harold White für die Bereitstellung von Informationen und Fotos. Unser ganz spezieller Dank gilt Sarah A. Corbet, die uns nicht nur Fotos und Informationen aus dem Leben ihres Bruders zur Verfügung stellte, sondern auch kritisch auf Fehler im Manuskript hinwies.



## Vorbemerkung

Als stark an Libellen interessierte Menschen haben die meisten von uns – möchte ich annehmen – Philip Corbet als Odonatologen wahrgenommen. Erst beim Zusammenstellen der Bibliographie fiel mir auf, in welchem großem Ausmaß er als angewandter Entomologe publizistisch und selbstredend beruflich tätig war. Hiervon hatte ich dann nicht zuletzt wegen der Publikation zu Libellen als wirksamen Regulatoren von Moskitos in Trinkwasserzisternen in Birma eine kleine Vorstellung; diese Arbeit von Philip und Coautoren ist die wahrscheinlich wichtigste, um nachzuweisen, dass Libellen auch einen "unmittelbaren ökonomischen oder gesellschaftspolitischen Wert" haben. Richtig eingesetzt, sind Libellen tatsächlich wirksame und kostengünstige Helfer im Kampf gegen Malaria. Es waren aber gerade gesellschaftspolitische Motivation und Engagement von Philip Corbet, die ich überhaupt nicht wahrgenommen hatte, solange ich ihm unmittelbar begegnet bin. Immer haben wir von Libellen gesprochen, immer hat er unsere Meinung erfragt. Wie so oft, nahm man bei Philip Corbet nur die Seite wahr, die von unmittelbarem Interesse war. Dass er eine äußerst facettenreiche Persönlichkeit war, konnte man erahnen. Eine Facette, die den wenigsten Odonatologen bekannt sein dürfte, stellt sein Engagement in bevölkerungspolitischen Fragen dar. Aus diesem Grund veröffentlichen wir einen Vortrag von Philip, den er am 16. Oktober 2007 in Chasewater, Cornwall gehalten und mit Stand vom 21. Oktober 2007 dezidiert ausgearbeitet hatte (vgl. <http://www.cornwallhumanists.org.uk/humpop4.doc>). Da zu befürchten steht, dass dieser Vortrag dann doch einmal in den Weiten des World Wide Web verloren gehen wird, haben wir uns entschlossen, ihn in dieser Ausgabe des IDF-Reports zu dokumentieren. Er gibt uns Lesern die Gelegenheit, mehr über Philip zu erfahren, einmal indem er selbst darstellt, welchen Impetus das Thema Bevölkerungspolitik seinem Leben gegeben hat und indem er wichtige Stationen seines Lebens selbst schildert.

Martin Schorr, 03.05.2008



## Population Matters (very much indeed)

Philip S. Corbet †

### Introduction

I ask your indulgence this evening if I read most of this talk. I do this to preserve the continuity of ideas and because I cannot reliably remember all the dates and quotations I shall be including. Also, to economise on time, I shall be presenting my interpretation of the human predicament as though it is the only one, but this is to save time. I shall be emphasising the almost universal importance of carrying capacity in population-related matters, but I am conscious of the warning attributed to Epicurus (341-270 BC) that one should beware of trying to attribute all phenomena to a single cause! This talk will be presented in six sections:

- Carrying capacity.
- How did we reach our present position?
- Chronology of awareness of overpopulation.
- My own involvement.
- Prospects.
- Conclusions.

### 1. Carrying capacity

I am a qualified zoologist, specialising in ecology. My professional career has been in entomological research – pure and applied – in research management; and in teaching, research and management at university level, in Uganda, Canada, New Zealand and the United Kingdom. In all these activities I have had to be aware of the ecological principle of carrying capacity. This principle states that, for any resource base (usually an area of land or sea) there is a maximum number of individuals of a given species that can be supported there on a sustainable basis. By definition, if this number is exceeded, the numbers soon fall back to the carrying capacity, or below it, while the resource base and the animal population recover (if possible) from the stresses that they have endured by the imbalance that has been experienced. Or it may be that, after a population exceeds its carrying capacity, a new equilibrium is established, charac-





terised by a lower population and a lower carrying capacity. When the numbers of a species are increasing rapidly, and as the carrying capacity is approached, certain compensatory effects start to operate. Typically these are:

- Depletion of the essential resource base.
- Famine.
- Disease.
- Intraspecific conflict.

These consequences of overpopulation are well known in non-human animal populations; but what is seldom acknowledged is that human populations are no exception. Because the numbers of *Homo sapiens* are increasing geometrically, and because our species depends on a finite resource base, it is obvious that our populations, if not already doing so, will very soon experience these compensatory effects. Indeed, unless humans recognise this and plan accordingly, their populations will be liable to experience, with increasing severity, the effects of exceeding their carrying capacity. In such ways are all animal populations adjusted to their carrying capacity under natural conditions. Food and space have special significance for adjusting the size of a population, although other factors may play a role. Factors involved include:

- Availability of food – its quantity and quality.
- Frequency of encounters with other individuals (a measure of stress)
- Level of pollution of living space by the products or artefacts of other individuals, and
- Accessibility of sites for reproduction.

Almost all animals have evolved behavioural traits that counter these consequences of overpopulation, and humans are no exception. However, expression of these traits lowers the quality of life for all individuals and often lowers the birth rate and post-natal survival rate as well. In the case of human populations we already see these consequences expressed in increased incidence of famine, pestilence and war, all of which we claim that we wish to minimise. In short, such consequences reduce our quality of life, which leads to one definition of an optimum population for man, namely:

“the maximum number that can be maintained indefinitely without detriment to the health of individuals, from pollution or from social or nutritional stress.”



In my opinion this definition is flawed in a way that reveals a weakness in human nature. Why, for goodness' sake, should the optimum population have to be the maximum number? I sense the not-too-subtle influence of mainstream economists here, and their commitment to growth. Another reason for specifying the maximum is, I suggest, that natural selection has endowed humans with the urge to produce as many offspring as possible. In this respect, knowing what we do about the merits of stabilising our population, we are still struggling against the incubus of maximum reproduction, fixed on us in the course of evolution. (Sir Richard Southwood, in 1970, suggested, tongue in cheek, that this primeval urge to reproduce as fast as possible may equate to "original sin"!)

A term which is much used nowadays when human pressures on the environment are being discussed is 'Environmental Impact.' This concept is closely relevant to carrying capacity because, as a population grows, so does its Environmental Impact. It is agreed among ecologists (e.g. Ehrlich & Holdren 1971; Southwood 1972) that Environmental Impact (I) can be realistically defined as follows:

$$I = P \times E \times N$$

Where I is the environmental impact

P is the size of the human population

E is the amount of energy consumed per capita and

N is the proportion of this energy that is

(a) derived by modifying an ecosystem so that in future its production of energy will be less (e.g. resource depletion) and

(b) used for the production of materials that are not immediately and harmlessly recycled in the ecosystem (e.g. pollution).

This formula may appear rather weighty but it's actually straightforward. Recently some authors have chosen to express it in a slightly different way, as  $I = P \times A \times T$ , where A = affluence and T = technology, but the implications of both formulae are virtually identical.

Understanding this formula is absolutely central to any discussion of population size because it highlights the key role played by human numbers in determining the intensity of I and in acting as a multiplier for all the other terms, which express the nature and extent of resource consumption and their effects on the environment. So it highlights the inverse relationship between population size and the quality of life.



Today, people in the so-called 'developed nations' continue to use the earth's precious, finite resources in an almost frivolous way, by indulging in pastimes such as speedboat racing or using electric bread-knives. This led Kenneth Boulding (1966) to observe that:

"In the West, our desire to conquer nature often means simply that we diminish the probability of small inconveniences at the cost of increasing the probability of very large disasters."

The carrying capacity of man's environment has, since our hunter-gatherer days, increased greatly through technological change. This may have given some people the illusion that such changes can somehow lessen the effects of intra-specific stress and aggressive behaviour. Ironically, however, our greatly increased density has obliged a higher and higher proportion of us to live tightly packed in huge conurbations where the inhabitants are becoming increasingly vulnerable to stress and face the increasing prospect of mass mortality from warfare and disease. Already we live in a world where intertribal and international belligerence are increasing, and where weapons of mass destruction are being contemplated as possible ways of resolving conflict. It is obvious that, as populations continue to grow on what is becoming a diminishing resource base, these symptoms can only become more pronounced.

## 2. How did we get to where we are today?

It is generally accepted that the earliest Homo sapiens existed as hunter-gatherers, living within the earth's carrying capacity. Since then, by the application of ingenuity, our species has raised the earth's carrying capacity (for humans) by exploiting portions of the biosphere that had been supporting other forms of life, or by tapping into its capital (as distinct from its income). These takeovers were accomplished by major cultural developments, prominent among which were:

- Control of fire and development of hafted weapons.
- Agriculture and pastoralism.
- Use of tokens for trade and the accumulation of monetary wealth.
- Hygiene and medicine.
- High-energy technology.



The control of fire enabled our hunter-gatherer ancestors to move into areas where winter would have been unendurable had they not learnt how to release, through wintertime combustion, supplies of solar energy stored in wood by summertime photosynthesis. This development increased the world's human population to perhaps 5 million, which can reasonably be regarded as the Earth's carrying capacity for *Homo sapiens* as a hunter-gatherer (Ehrlich 1985). Also, the development of hafted weapons will have made it possible for hunters to secure the healthiest prey animals instead of those most debilitated by parasites. This will have reduced infant mortality among humans from parasitic diseases. Next, discovery of techniques of plant cultivation and grain storage, about 10,000 years ago, enabled humans to appropriate for human food areas of land that would otherwise have been occupied by humanly inedible plants and the animals dependent on them. As a result, our species became about 50 times as numerous over the next ten thousand years (Ehrlich 1985). Agricultural man made further technological changes to agriculture that enabled him to increase the productivity of additional tracts of land, allowing him to boost his numbers still further – all at the expense of other species. All these developments had a significant impact on the environment, as did, of course, the resulting increase in human numbers. By 1775, shortly before the Industrial Revolution, the world population had increased massively, to perhaps 750 million (Bligh 2004; Ponting 2007).

Industrialisation was a breakthrough of a different kind. The resulting addition to the world population of about 1-2 billion people (Howard 1969) represented a clear case of overshoot. The 750 million or so that the earth supported by preindustrial agriculture may be an approximate measure of the earth's carrying capacity for man, simply as a result of displacement of competitors. Industrialisation enlarged the illusory (i.e. temporary) carrying capacity for humans by exploiting the planet's geological savings deposits in the form of coal and other fossil fuels. These energy-rich deposits are, as we know, the product of millions of years of photosynthesis and of course are not being replaced at anything like the rate at which they are being consumed. The rate at which we use up the earth's finite reserves of capital has now been accelerated by three other cultural developments: (1) the development of economics, based on the use of tokens and surplus food as a medium for trade; this led directly to the commitment to growth and the accumulation of wealth, measured by money, which encourages consumption rather than conservation; (2) the development of preventive medicine; which reduces the death-rate without making compensating adjustments to the birth-rate; and (3) the develop-



ment of a high-energy technology based on fossil fuels. We may note that these developments have all been extremely recent, having taken place in less than 1% of man's time on this planet. This has been too short a time to allow humans to make the cultural changes needed to deal with the huge transformation that has occurred in their interaction with the biosphere.

The biological equipment that humans have acquired through natural selection and brought to their present existence is that of the hunter-gatherer. Man is of course an animal, unique only in that he has recently (by the exercise of ingenuity) been able to free himself to a large extent from normal ecological control and from the processes of natural selection, but not from his evolved attributes or their consequences (Morris 1967).

As the product of natural selection, humans retain certain strong drives:

- The urge to reproduce and to maximise the number and fitness of their descendants;
- The drive to defend the land from which they derive their livelihood; and Tribalism, which drives them to be suspicious of, and belligerent towards, other potential competitors, be they tribes or nations, that might appropriate their resources.

These characteristics remain with us as biological norms and they do not provide a suitable recipe for living in harmony with other humans in an overpopulated world where competition for essential resources is acute and worsening. It's useless to debate the morality of our self-interest because we are programmed this way. Our natural tendency to reproduce, greatly in excess of survivability, is still the basic cause of tribal conflict and accordingly is a major source of human misery. Only when this is understood can we agree on population limitation and cease to quarrel over food-producing land. The only way out of this trap is to modify the expression of human instincts by the influences of reason and the resultant application of social constraints. On the other hand, if we are unable to overcome our servitude to uncritical genetic command, we must consider the possibility that we shall fail to rescue ourselves from ultimate self-destruction.



### 3. Chronology of awareness of overpopulation

Humans began seriously to overshoot their carrying capacity only at the dawn of the industrial era and it seems that the first formal recognition of this fact was when the much-maligned Thomas Malthus published his famous Essay on the Principle of Population (1798). Malthus was a distinguished mathematician and a Fellow of the Royal Society of London. Curiously, he was also a theologian (perhaps so that he could hold down a job!). Malthus pointed out that because, with unrestrained reproduction, human numbers increase geometrically, whereas food resources only ever increase arithmetically, in the absence of birth control humans will always outstrip their food supply, resulting in starvation and misery. Malthus insisted that he had reached this conclusion from applying reason, as distinct from emotion or wishful thinking, and that, in any case, it was intuitively obvious. There were, and still are, powerful vested interests in opposition to his conclusion, especially among mainstream economists, who advocate continual growth in order to boost the economy. It is also fashionable to discredit Malthus simply because widespread starvation did not immediately follow his pronouncement. An example is a recent statement by the journalist Andrew Marr (1998) who wrote:

*"We all know that Malthus got it wrong. Malthus's explanation of the coming poverty, environmental decay and social collapse.....has gone down as one of history's great failed predictions – not just wrong, but hilariously wrong."*

Marr's statement, which one might call not just hilariously wrong, but sadly and pathetically wrong, is typical of commentators who follow the fashionable trend without the application of reason. Those wishing to discredit Malthus derived strength from the fact that the famines he predicted did not occur promptly, or at least not in countries his critics were concerned about. This was not because Malthus was wrong, but only because the world's food supply increased enormously, in a manner that could not have been foreseen, partly as a result of the cultivation of new land, for example in the Americas and Australia, and partly as a result of improved technology. In the longer term, and today for instance (when there is widespread poverty in the world), Malthus was of course absolutely right, and it's a great pity this was not recognised sooner. Instead, for at least 200 years it proved fashionable to dismiss what he said. Of course there were distinguished exceptions. As the Committee on Resources and Man of the U.S. National Academy of Sciences and National Research Council (Cloud 1969) put it:



*"The Malthusian limits are more likely to be extended by recognising their validity and doing something about them than by uninformed ridicule."*

Indeed, the Committee's leading recommendation for general policy was:

*"That efforts to limit population increase in the nation and the world be intensified by whatever means are practicable, working towards a goal of zero rate of growth by the end of the century."*

Their amplifying comment was that:

*"population control is the absolute primary essential without which all other efforts are nullified."*

Contemplating the present laissez-faire attitude in the United States towards population growth, it is difficult to believe that this recommendation was ever made.

I may have overlooked some allusions to the need for a population policy in Britain, but the next noteworthy event known to me is the publication of the satirical novel, *Brave New World*, by Aldous Huxley (1932) where he postulated a surreal society in which the imbalance between human numbers in relation to natural resources had been resolved by the existence of an all-powerful totalitarian state. In his sequel, *Brave New World Revisited*, Huxley (1959) made over-population his central theme, expanding on the urgency of addressing it if societies were going to retain any prospect of avoiding severely restrictive regimes. He stressed that man faced a "double crisis", identifying the imbalance between the world population and the available food supplies as the fundamental issue that underlies all the better-recognised social and political considerations, and the effects of which will inevitably lead to widespread loss of individual freedoms. A few years earlier the UK Government, perhaps in a fit of absent-mindedness, had established the Royal Commission on Population which recommended in 1949: (1) that our numbers should be stabilized; and (2) that the Government should make an official body responsible for maintaining a continuous watch over population movements and their bearing on national policies. The Commission noted also: first, that it would be impossible for any policy to be neutral because over a wide range of affairs, policy and administration have a continuous influence on family size, and second, that the control by men and

women over the numbers of their offspring is one of the first conditions of their own and the community's welfare.

Had the Commission's recommendations been heeded and implemented, we might be living in a very different country today. But all were ignored, and no action was taken. The Labour MP, Douglas Houghton, remarked (1970) that political parties fight shy of these matters and find them extremely distasteful. Such matters, he said, are bad for party unity and are supposedly vote losers. Houghton noted further that in 40 years the Labour Party had debated birth control only twice, in 1927 and 1940; and the Conservative Party not at all. Perhaps it need not surprise us that, almost immediately after Mr Houghton had made these statements, the Labour Party dissociated itself from his remarks. This denial persists: in a recent article Jack Parsons, the author of *Population versus liberty* (1971) bewails the fact that: "The BBC has been systematically excluding virtually all material on the question of basic population policy."

In today's society the forces opposed to population limitation are nothing short of formidable. Ehrlich and Holdren (1969) identify them as follows:

*"growth-minded economists and businessmen, ... nationalistic statesmen, ... zealous religious leaders and the myopic and well-fed of every description."*

It is worth noting that in 1968 322 MPs signed a motion demanding that there be an official population policy. I understand, from an article by Jon Tinker (1969), that, in secret, some action was taken: evidently an interdepartmental committee of civil servants was set up to advise Government how legislative and administrative acts could be made to further a policy of population stabilization. Predictably, the existence of this committee was kept secret (though fortunately not from Jon Tinker!). So, apparently, has any outcome of their deliberations.

The World Population Congress, held under the auspices of the United Nations in 1954, reported that no policy could be agreed upon because some countries had 'doctrinal objections' to birth control. No prizes can be expected for guessing which countries these were! In the mid-70s I attended an International Conference on Population Matters in Wellington, New Zealand. There again, it was found impossible to achieve unanimity on the need for population limitation. One country that voted against any policy of population limitation was Argentina, whose delegate declared that her country wanted more people, not fewer!





The tradition of committed ostrich-like denial by the UK Government persists. It was only about three years ago that the then Home Secretary, David Blunkett, went on public record as declaring that there was "no limit to the number of people that Britain could accommodate." Such a statement must have been swiftly followed by Thomas Malthus and Aldous Huxley (among others) turning in their respective graves. Likewise, very recently, the former Prime Minister (Tony Blair) admitted that his Government had no policy on population (Jones ca 2005). Outside Government, however, there is overt concern that continued population growth will put enormous pressure on Britain's essential services (Randall 2007). I am reminded of Douglas Houghton's observation in 1970 that, to the British politician, "population increase in Britain is thought of as something to be provided for, not something to be stopped."

The distinguished economist, John Maynard Keynes, (1883-1946), addressed the matter of overpopulation by posing the following question:

*"Is not a country overpopulated when its standards are lower than they would be if the numbers were fewer?"*

I find Keynes' approach much more fruitful than trying to identify the 'optimum population'. In 1970 the Institute of Biology, commendably in my view, mounted a symposium under the title "The optimum population for Britain" (Taylor 1970). The contributions to the Symposium, from a distinguished slate of international speakers, were uniformly excellent, but I regretted the choice of the words 'optimum population' in the title. This is because, even at that time, the most urgent need by far was to achieve a reduction in Britain's population. To spend time and resources trying to identify (and agree upon) an optimum seemed to me to represent a serious distraction from what should have been the main objective. In a talk that I and a colleague gave in Canada soon after this Symposium (Corbet & Smith 1973), we illustrated this view by posing the following analogy. If a man is in a small rowing boat drifting towards the top of the Niagara Falls, his strategy should not be to try to calculate precisely where on the bank he wished to disembark but to devote all his energies to reaching the bank as soon as possible. And later, in 1977, I concluded an article thus:

*"Time devoted to discussing whether this or that size of population is to be preferred is wasted time or worse".*

*"Our overwhelming priority is clearly to reduce the rate of increase and then the size of the population as soon as is humanly, humanely, possible."*



The unorthodox economist, Kenneth Boulding, wrote in 1959 that

*“without birth control, the equilibrium between resources and population is only maintainable by the misery of starvation and premature death, or by the human vice of genocide, as individuals, families or tribes (i.e. nations) seek to supply their own needs at any other individual’s or tribe’s expense.”*

Boulding saw three probable causes of lack of birth control:

1. Religious teachings.
2. The prevailing view that “God will provide.”
3. The view that, as economies grow, the birth rate will fall (the so-called ‘demographic transition.’).

With regard to resource use, Boulding pointed out that mankind today lives in what can only be a brief phase of enjoying free access to the planet’s capital – its rich but finite store of fossil sunlight. To have any chance of future stability, our policy should be to use this precious resource not in ways that make us increasingly reliant on it, but in ways that enable us to do without it. The planet’s stocks of accessible fossil fuels cannot last much longer. Our present treatment of them can be likened to someone burning down his house in order to keep warm.

Ever-popular agricultural ‘self-help’ schemes are useless (except as conscience-relievers) unless accompanied by birth control (Hardin 1974; Corbet 2006; Duguid 2007). The food aid supplied through ‘Band Aid’ 20 years ago now has to be repeated annually, as populations continue to increase on an impoverished resource base. On the other hand, where women are effectively enfranchised and enabled to realise their preference for two or three children, there is a realistic prospect of stabilising or even reducing the population. Sadly this consideration seldom features in the agenda of aid charities, often because they fear that to do so will alienate donors. If suffering in undernourished populations is to be relieved, attention would be much better directed primarily towards the goal of reducing births.

A seminal essay by the biologist-philosopher Garrett Hardin appeared in 1968. It drew attention to the so-called ‘Tragedy of the Commons’ and its lesson for population limitation. Hardin pointed out that any resource to which all members of a community have free access will inevitably be destroyed because each



user puts his own short-term interest before that of the community, namely the sustainability of the resource. Hardin saw this principle as applying to man's urge to reproduce, and showed that, only by mutually agreed coercion (to limit family size), could overpopulation and resource destruction be averted. In this context he defined true freedom as the 'recognition of necessity.' Many years earlier, the philosopher Edmund Burke (1729-1797), a contemporary of Thomas Malthus, had put it this way:

*"Men are qualified for civil liberty in exact proportion to their disposition to put moral chains upon their own appetites.....Society cannot exist unless a controlling power upon will and appetite be placed somewhere, and the less there is of it within, the more there must be without. It is ordained in the eternal constitution of things that men of intemperate minds cannot be free. Their passions forge their fetters."*

And, more succinctly, in his Letter to the Sheriffs of Bristol:

*"Liberty, too, must be limited in order to be possessed."*

The take-home message from both Hardin and Burke is that a democracy is fundamentally unsuited to achieve population limitation.

In 1972 the journal *The Ecologist* devoted a whole number to its "Blueprint for Survival". This was a publishing milestone. Signed by several distinguished scientists, it laid out the path that Britain would be advised to follow if the consequences of overpopulation and resource depletion were to be avoided. Prominent among the measures it advocated was population limitation. The British 'Establishment' reacted promptly and angrily to the "Blueprint." John Maddox, the then Editor of the journal *Nature*, devoted an editorial to trying to discredit the "Blueprint" under the title "A case of hysteria" (Anon. 1972). Immediately after Maddox's diatribe had appeared, a letter signed by about 20 senior biologists appeared in *The Times* saying that they approved in principle of the "Blueprint" and had only withheld their signatures for trivial reasons. Maddox's editorial was not closely reasoned and merely accused the authors of the "Blueprint" of being "alarmist", which, for Maddox, seemed to be sufficient justification for ignoring the message they were trying to convey.



In 1966, the distinguished Australian immunologist and Nobel Laureate, Sir Macfarlane Burnet, when reflecting on man's treatment of the environment, remarked that:

*"There are three imperatives: to reduce war to a minimum; to stabilize human population; and to prevent progressive destruction of the earth's irreplaceable resources."*

Later, in 1970, he declared that:

*"man suffers from a surfeit of knowledge and a deficiency of understanding."*

He amplified this by saying that man lacks understanding of a few central notions that apply to his treatment of global resources.

Not long afterwards Chris O'Neill (1976), a sociologist, warned that "What's done now, or not done, must be lived with for a long time."

In 1989, the Duke of Edinburgh used the Dimpleby Lecture to highlight the effect that human numbers were having on the biosphere, speaking primarily as a conservationist, but also as someone concerned with what human population growth was doing to the biosphere. He said:

*"In the end it is up to us as procreators, predators, manipulators, exploiters and consumers to realise that we have to live off the limited land of our planet."*

and

*"We have to learn to accept that any further growth in the human population.....[is] bound to cause very serious problems for the [future] generations"*

And three years later, the Prince of Wales (1992) urged that the topic of runaway population growth should be seriously addressed and should find prominence on the agenda of the Earth Summit Conference in Rio.

In a refreshingly forthright interview earlier this year, Chris Rapley, the newly appointed Director of the Science Museum, chose to focus on the need for population stabilisation in Britain (Clover 2007). Rapley identified this as an issue that must be addressed although "no one will talk about it." In regard to the



matter of environmental impact, he stated that “the country needs fewer people, not greener ones!” He stressed that we face problems that will not be solved by technology alone, but only by a change in social attitudes.

From this abbreviated review of pronouncements on the population problem since Malthus had his say, I draw the following conclusions.

Man’s powerful, innate drives towards unconstrained reproduction and resource consumption have led to a serious imbalance between the size of the human population and the ability of the biosphere to support it on a sustainable basis.

This imbalance, which grows more pronounced by the day, is already causing widespread hunger and premature death and can only result in the collapse, of numbers and of social order, if stern countermeasures are further postponed. Although respected scientists and a few unorthodox economists have been publicising the need for countermeasures for at least 50 years, there is a widespread reluctance among society’s leaders, including the Government, to address this issue and to formulate remedial action.

This being so, human society as we know it faces imminent destabilisation.

#### **4. My own involvement**

It was when I was a 23-year-old PhD student at the University of Cambridge in 1952 that my perception of the human condition underwent a sudden transformation and gave me a focus of intense concern that has remained with me ever since. In brief, I became acutely aware that the world’s human population was increasing without control and that, unless governments acted robustly to check its increase, disaster lay ahead. What alerted me to this realisation was hearing on the radio the Presidential Address to the British Association for the Advancement of Science delivered by the distinguished biophysicist A.V. Hill under the title “The Ethical Dilemma of Science” (Hill 1952). The dilemma that Professor Hill identified was the morality of using science primarily to save lives when there were already so many people on the planet that famine and infant mortality were rife.

From that time onwards I resolved to try to publicise the fact of human overpopulation whenever opportunity offered. In practice, because people are so averse to discussing this matter, opportunity hardly ever did offer, until, that is,



I acquired what I would call a 'power base'. This happened when in 1967 I was appointed Director of a large agricultural research institute in Canada. I find this sad to relate, but I found that, while I held that position, what I said (e.g. in a committee or advisory group) was listened to because of my position, rather than because of what I said. This was a depressing realisation but I exploited it to the full. During the rest of my professional career I always had a power base of some kind and so was able to pursue my aim of publicising the need for a population policy. In committees I could do this by introducing a motion that would lead to action of some kind, or at least oblige other members to respond to a question which would then be recorded in the minutes of the meeting. The case for a population policy was so compelling, especially to biologists, that I often received support, even though none of my associates was willing to raise the matter independently. For example, in Canada I served as President of one of the largest scientific Societies in the country and from that position, via a motion passed by the Council and then at an Annual General Meeting, I arranged that an open letter be sent to the Canadian Government asking for its population policy to be stated and publicised (Corbet 1971). Interestingly, and significantly, there was only one dissenting member of the Society's Council. He was a Roman Catholic, and the obligatory member from the Province of Quebec. He may have feared for his prospects in the Hereafter! There were other opportunities: as a member of Council of the newly-formed Committee of Heads of Canadian University Biology Departments, I proposed that the first statement on the Committee's manifesto be to call for a national population policy. A general meeting supported this unanimously, which gave it strength. And in 1971, with a senior colleague, I orchestrated an open letter from 25 senior biologists to the Prime Minister (Corbet & Leroux 1972), asking that Canada formulate a national population policy. We received an answer (we had to!) but predictably it was a bland one which effectively sidelined the issue. These are only a few examples. Suffice to say, I used any opportunity that came my way to use my influence towards this end.

When in New Zealand, between 1974 and 1980, I had better opportunities to expose the issue of overpopulation. I jumped at the chance to direct a two-year MSc course in resource management that had been newly established there by the University of Canterbury and Lincoln Agricultural College. This was because the relationship between the numbers of people and New Zealand's carrying capacity is so straightforward. It can be easily explained in terms of the country's simple agricultural economy and its dependence on imported fossil fuels. Put simply, New Zealand depends on its agricultural production to earn the for-



eign exchange with which it purchases the fossil fuels which, in turn, it needs to underwrite its agriculture. This circular dependency, which is easy to grasp, shows that per-capita prosperity in New Zealand will diminish as its human population increases. I was able to raise the population issue in a number of forums, while serving on bodies such as the New Zealand Environmental Council, the newly-formed Demographic Society (which I helped to establish) and the New Zealand Club of Rome, and when making population the main topic for discussion at an annual conference of the New Zealand Mensa Association. Two incidents deserve mention. The first occurred within a few days of my arrival in the country. The United Nations was to hold a World Population Conference to address the topic of demography world-wide and had invited each nation to submit a position paper outlining its population policy. Wishing to participate, the New Zealand Government set up an Inter-Departmental Committee on Population Questions to prepare a paper for submission to the United Nations. This Committee invited submissions from the public, to be collated and summarised by the New Zealand Commission for the Environment. Of course I submitted a contribution; it included the recommendation that the New Zealand Government's policy should be to adopt

*"measures to ensure that population size would become progressively adjusted to a level at which an acceptable standard of living and quality of life can be sustained for future generations with the resources available to New Zealand in the long term."*

As it happened, I knew the Commissioner for the Environment well and I was aware that, although he was a civil servant, he was also a senior scientist who, predictably, shared my views on environmental concerns. Anyway, the Interdepartmental Committee must have allowed their attention to wander while preparing the final submission because my exact words appeared in the eventual position paper for New Zealand. So, thereafter, whenever I wished to advocate a population policy, I could honestly say that the official position of the New Zealand Government on the matter of a population policy "is as follows" and quote my own words! Another opportunity came when I was serving on a quango, the New Zealand Fact-Finding Group on Nuclear Power. This group, appointed to advise the New Zealand Government in 1975, comprised six members, plus support staff, and was chaired by the President of the Royal Society of New Zealand. Each member was assigned duties by the Chairman. When it came to producing the final Report, I was delighted to be given the task of writing the summary. This gave me the opportunity to stress the need for New



Zealand to live within its means, in other words to tailor demand to the resources available in the long term. I gave this statement prominence by putting it in a free-standing Epilogue at the end of the Report so that it would be the message that readers would take away with them. Of course a message like this was not what mainstream economists and members of the Establishment wanted to hear. As time passed, I began to think I had got away with it without having to defend my position when late one evening the Chairman 'phoned me at my home to say that the Epilogue would have to be changed. He tried to persuade me to water it down but I asked if instead I could come round to his home and talk about it. He graciously allowed me to do this and the upshot was that the statement remained in the final Report unchanged. I was gratified by this outcome because the Report (1977) was adopted by the New Zealand Government as the country's position statement on nuclear power.

I have mentioned a few selected examples of the opportunities that exist for advancing awareness about population matters if one can command a power base, however modest. However, the defence mechanisms of the establishment and governments are more than equal to any progress that individuals or quangos can make towards reform, and I have to say that, for all my efforts on this front, I have detected no change in national policy as a result. I think it will be clear from parts 3 and 4 of this talk how determined and effective governments can be when trying to block any discussion of the topic of population policy.

I have reviewed the attempts by individuals, and sometimes associations, to publicise the need for a population policy, and their consistent lack of success. This brings us to the present, in a world where the human population continues to increase and the inevitable consequences of this, namely pollution, famine and conflict, continue to worsen. It is now appropriate to examine the prospects that face the world's human population in 2007.

## 5. Prospects

I shall begin by quoting what Aldous Huxley, the author of "Brave New World", wrote in 1959. He said:

*"Overpopulation is the grim background against which the drama is being played out. The choices are between famine, pestilence and war on the one*





*hand,  
birth control on the other."*

When one looks for any recognition of this scenario among governments during the intervening years, one encounters only a consistent resolve to ignore Huxley's warning. Indeed there are still influential people willing to dismiss such warnings as the utterances of so-called 'Doomsayers', evidently believing that merely to use this term will invalidate any warnings of impending catastrophe.

My own view comes close to the wry statement in a book by the American novelist, James Branch Cabell, published in 1926. He wrote:

*"The optimist proclaims that we live in the best of all possible worlds, and the pessimist fears this is true."*

When one reflects on the known consequences of a species exceeding its carrying capacity when there is no prospect of its avoiding these consequences, one has to face the fact that the environment we enjoy today, especially in a protected, privileged, resource-rich country like Britain, is anomalous and acutely temporary. We live in a world struggling under the burden of inequitable distribution of resources essential for survival and health. Today's human population is starkly partitioned between the 'haves' and the 'have-nots'. As we well know, the world's food resources nowadays go to those people who can afford them, not to those who most need them. This inequity originated in, and persists as a legacy of, the economic arrangements put in place by the western nations who, because of their advanced technology (Diamond 1997), were able to colonise Third-World countries, especially during the 18th and 19th Centuries. When contemplating or trying to maintain this inequity, we should be well advised to reflect that it is unlikely to persist unchallenged for long. As a species we have been programmed by natural selection to respond to resource shortage in ways that will swiftly increase the likelihood of civil disturbance, conflict and social unrest. As Bligh (2004) has pointed out, we have the latent ability to consider how best to serve mankind in perpetuity and not just how to serve ourselves during our own lifetimes. To do that, he says:

*"we must strive to sustain and strengthen that thin veneer of humanity by which we seek to subdue our animal inheritances and ensure, to the best of our ability, that we leave the world in a fit state for our successors. The only way to stand any chance of achieving this is to institute birth control."*



This is a pronouncement by a thoughtful expert whose only aim is to make a measured and sober prognosis of human prospects.

The question can be fairly put: given our biological inheritance, can we avoid ultimate self-destruction? The 'green' economist, Colin Price, writing in 1993, and contemplating the pattern of our resource depletion, predicted that:

*"The human species is destined to have a very short tenure in the history of life on Earth because it cannot help but use up the energy resources that it evolved to exploit."*

As I see it, although the time to avert disaster is now critically short, any hope that humankind has to do so depends absolutely on using our power of reason to suppress our instinctive behaviour. In other words, on marshalling the will to change our ways. As Robert Socolow has said (Kolbert 2007):

*"Whether it's still practical depends on how much we give a damn."*

In 2007, as I contemplate the human population's response to the need to arrest global warming (among other environmental threats), I see no convincing sign that we 'give a damn.' On the contrary, in matters of reproduction, resource consumption and production of waste products, our policy is 'BAU', or 'Business As Usual.' Elizabeth Kolbert (2007), after projecting existing trends towards climate change, and noting the failure of governments to act effectively towards mitigating or offsetting these trends, concludes by saying:

*"It may seem impossible to imagine that a technologically advanced society could choose, in essence, to destroy itself, but that is what we are now in the process of doing."*

Or, as Bligh (2004) speculates:

*"Someone will visit the earth in a few million years and find that there were some intelligent beings who lived here for a while, but they just couldn't handle the transition from being hunter-gatherers to high technology."*



## 6. Conclusion

I've reviewed the evidence that overpopulation is the most serious problem facing mankind. I shall end this talk by summarising the facts as I see them.

The integrity and stability of the biosphere – that delicate envelope around the planet on which all life depends – are under threat from the outbreak of the human population and the inevitable consequences of this, namely resource depletion, pollution and climate change. These impacts are merely symptoms of one primary cause – overpopulation. Although the destructive effects of unrestrained population growth were clearly enunciated more than 200 years ago, and although many respected advocates have urged, in the intervening years, that remedial policies be put in place for reducing population growth, the appointed leaders of almost all nations have steadfastly refused to recognise or address the problem, even though it is clear that, the longer action is delayed, the worse the ensuing crisis will be, and the more draconian any countermeasures will have to be.

The (sustainable) carrying capacity of the biosphere for humans is probably less than 1 billion, this being the approximate size of the population just before the Industrial Revolution. Since then the human population has increased geometrically, to reach about 6.5 billion, a situation powered by the instinctive urge to reproduce, and exacerbated by adoption of a high-energy technology that has greatly increased the effectiveness of food production, disease prevention and death control, as well as the rate of resource consumption and pollution. Those developments have relied to a huge extent on access to the planet's finite stock of fossilised sunlight, accumulated over many millions of years. Despite our almost total dependence on these reserves, their exhaustion is now in sight, whereas virtually no contingency plans exist to maintain our present way of life without them. As with the need to arrest population growth, governments are not developing effective ways of managing modern civilisations without a massive subsidy from fossil fuels.

A continuing feature of human civilisation is the very inequitable distribution of resources, a situation maintained and exacerbated by commitment to economic goals based on the manipulation of money. In practice this results in the planet's resources, including food, flowing primarily to people who can afford them, rather than to those who most need them – a legacy from the economic arrangements put in place and imposed by the more technologically



advanced, colonizing nations two to three Centuries ago (Diamond 1997; Ponting 2007).

The insatiable thirst for economic growth and the acquisition of wealth continually exacerbate the effects of population growth, bringing ever closer the time when the symptoms of overpopulation will cause collapse of civilisations as we know them. These symptoms include global warming (causing desertification and rising sea levels), widespread famine, premature mortality, pestilence, and civil and international conflict.

In their steadfast refusal to address the problem of overpopulation, mankind's so-called leaders have exhibited stupidity, timidity or denial, or a combination of these failings. Because only they can generate the coercive policies needed to limit population growth, by their neglect these individuals will have denied future generations the opportunity to enjoy a fruitful existence, having enriched themselves at their descendants' expense. The ethics of our present state are well described by Catton (1976) when he remarks that:

*"Our numbers and our technology have locked us into stealing from the future."*

## Epilogue

These are undoubtedly very dismal prognoses. Remedial action has been postponed for so long that, whatever action is now taken, it will be impossible to avoid, at the worst, universal chaos, and, at the best, draconian curbs on individual freedoms under totalitarian regimes. Nevertheless, even at this late stage, there may be ways of mitigating this grim scenario and perhaps of salvaging some of our self-respect.

It is clear that a democratic system is not equipped to devise and implement policies involving curbs on individual freedoms, such as reproduction or resource consumption. This being so, a way forward might be for all political parties in each country to be persuaded that, for the sake of human civilisation, they must form a coalition (as in wartime) and act in concert on the issues of overpopulation and climate change. The only route by which I could see this happening in Britain (remotely unlikely though it may be) is for the President of the Royal Society of London, with the unanimous support of the Fellowship, to



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convince Government of the gravity and urgency of the need, and to request that they adopt this course.

Small though the chances of success might be, I cannot see continued inaction as a moral alternative for people who take seriously their obligations to future generations.

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