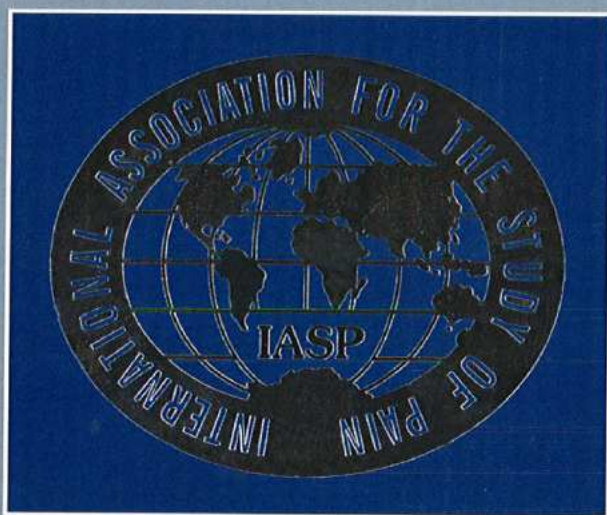


CELEBRATING 25 YEARS



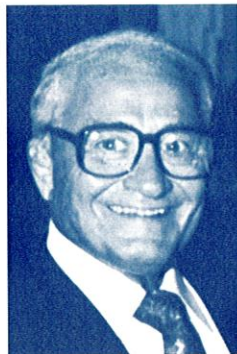
INTERNATIONAL
AS ASSOCIATION
FOR THE
STUDY OF PAIN

1973-1998

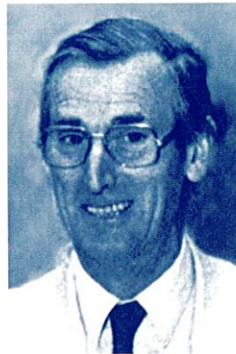
IASP PRESIDENTS PAST AND PRESENT



DENISE ALBE-FESSARD
1975-1978



JOHN J. BONICA
1978-1981



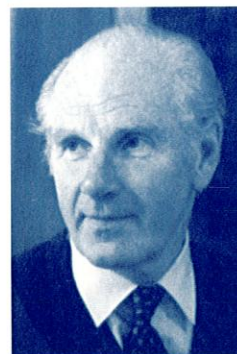
AINSLEY IGGO
1981-1984



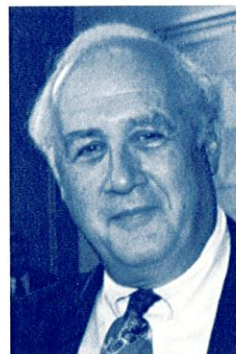
RONALD MELZACK
1984-1987



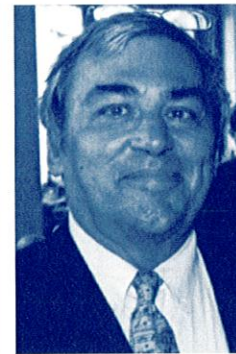
MICHAEL J. COUSINS
1987-1990



ULF LINDBLOM
1990-1993



JOHN D. LOESER
1993-1996



JEAN-MARIE BESSON
1996-1999

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INTERNATIONAL ASSOCIATION FOR THE STUDY OF PAIN

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Happy Birthday IASP

Jean-Marie Besson

It all started during a meeting at Issaquah (1973) when following a proposition by John J. Bonica, the majority of the participants approved the concept of the founding of our Association. This meeting fully reflected the personality, the determination and the efficiency of John. We met in a convent about 40 kms from Seattle, and I seem to recall that the lodging aspects of the meeting were somewhat on the strict side. The program that was organized was full but such that a maximum number of contacts could be made between the participants. Despite the busy program I remember playing table-tennis with H.L. Fields and having long discussions with the anatomist W. Mehler who also arrived at dinner one night in triumph having caught an enormous salmon. I also recall that a French student, studying motor systems in Seattle, fainted during the projection of a film by Ron Melzack showing a trephination in the middle of the African bush for the relief of migraine.

I look back to our first World Congress on Pain in Florence. Mme Albe-Fessard (Chairman of the Scientific Program Committee, SPC) put me in charge of collecting the abstracts and it turned out to be necessary to retype many of them. The first ever meeting of an IASP-SPC took place at the Institut Marey in Paris in order to organize the program for the forthcoming Congress in Florence. John Bonica was unable to be there and so followed our deliberations on the telephone. Fifteen days later we met up in a Pan Am lounge in London where after a tense but constructive meeting, the final program was established. Although quite normal for the period, the logistics of IASP were a little lacking in organization. However, the goodwill of the entire organization and the enthusiasm of Paolo Procacci and his colleagues ensured that this first meeting in Florence was an enormous success which served as a base for the future development of our Society which has simply continued to increase in size as time has gone on. IASP has now become a remarkably well organized and managed Society, the envy of a number of other associations for which many thanks are due to our Executive Officer, Louisa Jones, and her colleagues in Seattle (see her article).

Our Society made a major step forward with the constitution of our various Committees, National Chapters, Task Forces and more recently, the establishment of Special Interest Groups. The journal *Pain* (P.D. Wall as founding Editor, see his article) soon also to reach 25 years of age, has played a very important role in the development of IASP not only in terms of research in the field of pain but as a means of estab-

lishing better treatments for patients who are suffering from acute and chronic pain. At the present time there are many different publications from IASP and several of them have been translated into other languages. IASP Press has maintained an active front and has published quality books at prices which are remarkably low compared to others in the market. In his article, John D. Loeser explains the philosophy of IASP since the early days. I believe that the different groups that have been involved in the leadership of our Association over the years have maintained the aims of IASP as were initially defined and to them I give my hearty thanks. IASP has attracted the best scientists and the best clinicians throughout the world and numerous exchanges and links have been established between these individuals. Although the future is full of fascination and promise, the advances that already have been made since the founding of IASP are very satisfying (see the articles of A.I. Basbaum and A.H. Dickenson and H. Mc Quay). If it is true, as I have suggested on occasions, that the complexity and the sheer amount of data from basic science is such as to cause a degree of bafflement in our clinical colleagues, I am convinced that the links between basic and clinical research are essential and form one of the strong points of IASP that must be maintained at any price. Moreover this will be reflected in the plenary lectures of our 9th World Congress in Vienna where molecular biology will start to impinge upon certain of the problems which are faced by clinicians. On the other hand, the majority of our members will be able to fully express themselves in the course of the numerous poster sessions and in the 85 workshops on the program. I would like to take the opportunity to give my thanks to the Chairmen of the Scientific Program Committees which have been set up over the years. As T.S. Jensen (chairman of SPC for the meeting in Vancouver) explains in his article, there is a considerable amount of work involved which starts at the end of the preceding Congress and then only finishes several months after the Congress with the publication of the *Proceedings*.

Finally, I would like to thank every single member of our Association who has been part of our expansion since the inception of IASP and who have become involved in our fight against pain. Some pain states can now be well-controlled yet there are still others which are far from being treatable. I ask you all to double your efforts.

Happy Birthday IASP!

Jean-Marie Besson, DSc, is President of IASP and Director of Research, Centre National de la Recherche Scientifique, Director, Laboratories of Physiopharmacology of the Nervous System, Institut National de la Santé et de la Recherche Médicale, and Director, Physiopharmacology of Pain, École Pratique des Hautes Études, Paris, France; INSERM Unité 161, 2 rue d'Alésia, 75014 Paris, France (Fax: 33-1-45-88-13-04).



Venezuela



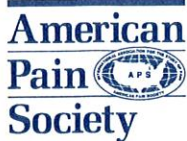
Middle East



Philippines



South Africa



United States

Philosophy of IASP

John D. Loeser

The International Association for the Study of Pain was a long-term dream of John J. Bonica, who was the creator of this organization. The meeting that led to the formation of IASP was held in Issaquah, Washington in 1973, and was the direct result of Dr. Bonica's planning and fund raising. He envisioned an interdisciplinary and international effort to improve knowledge about pain, to improve the education of health care providers, and to improve the care of patients who suffered from pain. With amazing foresight, he identified the issues and selected the people who would carry forward with his mission while adding their own creativity to the shared tasks. Dr. Bonica's personal experiences and beliefs were the source of the mission of IASP and led to our enduring philosophical approaches.

The primary philosophical thesis is that every professional who is willing to address knowledge, education or clinical care about pain has something to offer our organization and should be encouraged to join, for we have something of value for him or her. For this reason, IASP, its officers, councilors and its staff have worked hard to encourage membership in both the developed nations and those that are in the process of development. Our emphasis upon chapter development also springs from this goal. A secondary tenet is that differences between countries do not establish a hierarchy for either members or chapters. We have long espoused the theory that any meeting that brings people together to learn about pain is of value, even if we are not its sponsors. Similarly, educational efforts and materials are also useful if they are of high quality, even if we did not create them.

IASP was envisioned as a direct membership organization and not as a federation of national chapters. This set an important tone in the early days of our Association, as, unlike many other international organizations, we did not begin as a set of national chapters that began to communicate with each other. This has meant that the leaders of IASP have been elected directly from the membership and not by national chapters. This made us an innovative and flexible group that existed outside of power structures within specialties, disciplines, and nations. It established a flexible organization, capable of re-

sponding to needs and opportunities without concern for the desires of constituent societies or other power bases. The leadership of IASP has recognized the importance of national chapters for the encouragement of research, teaching and patient care within each country or region, but we have been careful not to give power to chapters within the IASP governance structure.

A key philosophical idea has been the importance of a multidisciplinary organization that attempted to include all professionals with an interest in pain. This has been a difficult task, for the economic resources available to clinicians in developed countries far exceed those available to researchers or these in poorer nations. With this goal we have kept dues and meeting fees at the lowest possible levels and implemented a sliding scale so that we could include everyone. We have tried to husband our limited resources to provide benefits that would impact all members. The requests for support far outdistance our means, but we do what we can. Virtually nothing is spent for the support of council members and officers, other than the cost of one council meeting between the triennial Congresses. Our administrative costs are very low, thanks to Louisa Jones. We send books, journals and other materials to developing countries and members who would otherwise have no access. We price our books at less than half of the typical commercial publications so as to bring first class materials to as many as possible. Finally, strenuous efforts are made to design meetings and publications to be of value to the widest possible representation of our members. In spite of many temptations, we have kept a truly multidisciplinary membership.

There is little question that the leadership of IASP has perceived our organization as the centerpiece of the pain movement. We have watched other national and international organizations grow in the past twenty years. Some of us have felt threatened by this inevitable proliferation, but such other organizations do fill needs that IASP is either unable or unwilling to meet. On the other hand, there is little question that *PAIN* is the premier journal in the pain field; it shows no signs of diminishing its standing in spite of the proliferation of other journals in many languages. Our Congresses are also considered the best meetings related to pain. Our publications and books are superior. The taxonomy project, as well as multiple Task Force and Committee Reports have been influ-

ential in the development of pain research and patient care. The leadership of IASP has always set the standard that whatever we do, we should be the best. Twenty-five years later, this shows.

Fiscal philosophy has also been important in our development. From the beginning, we have believed that the membership should fund the organization and that each Congress should fund itself. We had no endowment with which to launch our programs and publications. We also believed that the organization should not provide financial benefits to its elected councilors and officers. We stumbled when we attempted to fund raise through a Foundation; it has long ago been abolished. Instead, we have gradually built programs with small annual surpluses. We are financially conservative. Our staff are paid good wages and have a good benefit program. We are beginning to reap profits from this approach. Our journal is now providing funds for our operations. Our books are also financially sound. Solid planning, watching the details, good executive decision-making, again, thank you Louisa!

Education is clearly the backbone of change, especially in pain treatment. Much of our energy has been focused upon the development of educational materials, as exemplified by our curricula for all health care disciplines, the refresher courses at Congresses, materials published in our Newsletter and other publications. We have expended much of our financial and professional resources on this area, hoping to effect changes in pain treatment throughout the world. We have worked closely with the World Health Organization (WHO) and their Cancer Pain Program and are exploring other potential avenues of collaboration with them and other profes-

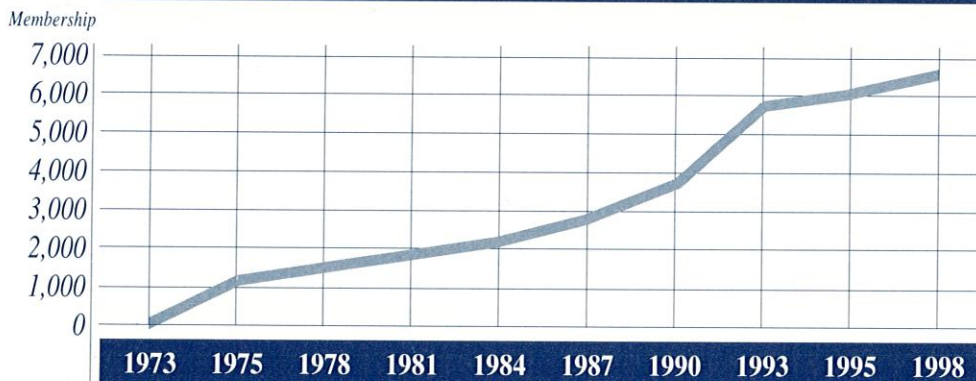
sional organizations. We are now encouraging and subsidizing annual research meetings in the non-Congress years so that we may assist in the development of new knowledge about pain and its treatment.

We have adopted the philosophical position that we would not get into the business of professional certification for individuals or treatment facilities. The resources to do this are well beyond our means. Furthermore, this type of activity must be national or, at best, regional in nature. Thirdly, only a segment of our members would benefit from such an activity. We also do not like the concept that this could lead to a hierarchy of members. It is our belief that issues of certification and accreditation should be left to countries and disciplines.

Finally, we emphasize the principle of Egalitarianism in our Association. We are actively multidisciplinary. We are indifferent as to members' sex, color, language, country or specialty. We have tried hard to nominate officers and councilors as well as committee members to reflect all aspects of our membership. We respect individuals for what they have accomplished and attempt to reward young scientists and clinicians with subsidies to attend meetings, participation in the meetings and awards. Our elected leaders have made efforts to visit most of our national chapters and to encourage their development, often traveling long distances and giving freely of their time. IASP is a justifiably proud organization.

John D. Loeser, MD, is Immediate Past-President of IASP, and Professor, Depts. of Neurological Surgery and Anesthesiology, University of Washington School of Medicine, Seattle, WA 98195, USA (Fax: 206-543-8315)

IASP Membership 1973-1998



Turkey



France



Pakistan



Colombia



Argentina



Australia

History of the International Association for the Study of Pain

Louisa E. Jones

Founding of IASP

The establishment of a professional society and a professional journal devoted to pain research and treatment had long been a goal of Professor John J. Bonica. Toward this objective, in 1973 he organized the first International Symposium on Pain, held in Issaquah, Washington, USA on May 21-26, 1973. Financial support for the meeting was largely provided by the National Institutes of Health, the University of Washington Medical School, and a handful of companies in the pharmaceutical and medical equipment fields. Most of the 'known' names in pain research (basic and clinical) were invited speakers at the meeting and that speaker list attracted about 300 registrants.

The venue for the meeting, Providence Heights Conference Center, was originally a teaching college for a nursing order of Catholic nuns who ran several hospitals in the Pacific Northwest. The sisters still had their administrative headquarters there and were running the old college as a conference center. A number of meeting delegates commented that the setting was peaceful, almost like being on retreat, and that it provided a captive audience for sessions and for after-hours discussions. It was a good atmosphere for the close study of the field of pain that Professor Bonica had hoped for. Sister Marguerite, the nutritionist and cook, kept everyone well fed.

At the end of the meeting Professor Bonica proposed the establishment of the International Association for the Study of Pain (IASP) and the start of the journal *Pain*; the approval for both was unanimous. Professor Patrick D. Wall was asked to be the first Editor-in-Chief of the journal and accepted that responsibility, a position he holds today. The Association was incorporated in Washington, DC in May 1974 and received tax-exempt status as a 501(c)(3) non-profit corporation that same year.

Membership, Staff, and Finances

Members: Attendees at the Issaquah meeting were co-opted as the first members of IASP. Members were asked to suggest other persons for membership. These others were contacted individually from the IASP secretariat office which was soon established at Prof. Bonica's office at the University of Washington. Persons who joined the Association prior to February 28, 1975, were given the title of 'Founding Member' and about 235 IASP members still share that honor. Membership in IASP grew at a regular rate from the original 350 to a current total of 6,500 persons in 90 countries. The IASP Directory of Members, published annually, gives a straightforward accounting of this growth. Virtually every basic science discipline and medical and dental specialty is represented by the membership, including health professionals in the fields of nursing, physical therapy, psychology, social work, occupational therapy, etc.

Secretariat Office: In 1981 the IASP secretariat office moved from the University of Washington and rented office space, first from the Fred Hutchinson Cancer Research Center, and then in November 1984 in an independent office building located in the University District in Seattle, where it remains today. The IASP office staff began with a part-time executive assistant and occasional student help and has grown to the equivalent of nine full-time employees.

Budget: The finances of the Association have grown from an operating budget of less than \$US 100,000 to the current 1998 operating budget of \$US 1,800,000. Membership dues have been increased as necessary over the years; however, the current dues scale has been in effect for the past four years without an increase.

Committees and Task Forces

Central to the activities of the Association have been the work of dedicated committees and task forces appointed by the IASP Presidents down the years to fulfill some of the objectives of the Association. They have included the Committee on Taxonomy, chaired by Prof. H. Merskey, Committee on University Courses and Curricula, chaired by Prof. I. Pilowsky, Committee on Professional Education in Pain, chaired by Prof. H. L. Fields, Task Force on Acute Pain, chaired by Dr. L. B. Ready, Task Force on Pain in the Workplace, chaired by Prof. W. E. Fordyce, and Task Force on Pain in the Elderly,



Canada



Bolivia



Scandinavia



Nigeria

chaired by Dr. B. Ferrell. Last, but not least, the congress Scientific Program Committees, chaired by Prof. D. Albe-Fessard (1975), Prof. J.C. Liebeskind (1978); Prof. U. Lindblom (1981), Prof. H.L. Fields (1984); Prof. R. Dubner (1987); Prof. Sir M.R. Bond (1990), Prof. G.F. Gebhart (1993), Prof. T.S. Jensen (1996) and Prof. M. Devor (1999). The work of these groups resulted in important publications in the field of pain that have been well-received worldwide: *Classification of Chronic Pain* (1986, 1994), *Core Curriculum for Professional Education in Pain* (1991, 1995), *Management of Acute Pain: A Practical Guide* (1992), *Pain in the Workplace* (1995), *Pain in the Elderly* (1996), proceedings of the eight IASP world congresses that have been held to date, and refresher course syllabuses for the past four congresses. Work in progress includes the Task Force on Pain in AIDS, Task Force on Epidemiology of Pain, Task Force on Cancer Pain, Task Force on Opioid Sensitivity of Different Chronic Noncancer Pain States, and Task Force on Pain Following Spinal Cord Injury.

Activities

IASP Journal. IASP contracted with Elsevier Science Publishers and the first quarterly issue of *Pain* was published in January 1975 (400 pages per year). Within two years 800 pages per year were being published as a bimonthly journal. In 1982 the journal increased to monthly publication with 1200 pages per year. At present, the journal continues to be monthly with three double issues and over 1800 pages per year. For the 1981-1990 IASP world congresses the abstracts were published as a supplement to *Pain*. In 1986 the first edition of *Classification of Chronic Pain* was published as a supplement to *Pain*.

Newsletters. From the beginning, IASP has published a Newsletter, which is at present bimonthly. In addition to the routine business items of such a publication, it endeavors to keep members informed about chapter activities, new books in the field of pain and upcoming meetings. In December 1988 a "Technical Corner", edited by Dr. C. B. Berde, was incorporated into the newsletter to present timely topics in pain research and treatment. Although financial statements had been reported to members via the newsletter from the outset, in 1993 the Association began publication of a separate, more detailed, *Annual Report*. Also in 1993 IASP began publication of a tri-annual clinical newsletter called *Pain: Clinical*

Updates, edited by Prof. D. C. Carr, which has been well-received and is routinely translated into several languages by IASP chapters and others.

IASP Press. In 1993 the Board of Directors agreed to the establishment of IASP Press as the formal book publishing arm of the Association, with Prof. H.L. Fields as editor-in-chief. The objective was to publish high quality, low cost books in the pain field. The first book was published in February 1994 and by Fall of 1998 IASP Press had 17 books in its catalog.

Other IASP publications include.

- outline curricula for schools of medicine, dentistry, pharmacy, nursing, occupational and physical therapy, for psychologists, all published between 1988 and 1997.
- ethical guidelines for investigations of experimental pain in conscious animals (1983) and ethical guidelines for pain research in humans (1995)
- desirable characteristics for pain treatment facilities (1990)
- standards for physician fellowship training in pain (1990)

Home Page. In 1996 IASP developed its own home page on the world wide web and has gradually added useful materials for members and others. Such materials include a routinely updated international meetings calendar, detailed information about IASP publications, full text of the IASP curricula, full text of back issues of *Pain: Clinical Updates*, detailed information on upcoming IASP congresses, list of training programs in pain, list of resources for the general public, etc.

World Health Organization. In 1987 after a lengthy application period, IASP was granted Non-governmental Organization (NGO) affiliation with the World Health Organization (WHO) and has worked closely with the WHO cancer pain unit. At present these activities are being expanded to other areas in the pain field and IASP is working with other NGOs such as the World Federation of Societies of Anaesthesiologists in the development of future programs.

Developing Countries. The IASP Council has had ongoing concern about the oft-time difficulties for persons in developing and currency-restricted countries to participate fully in the activities of the Asso-



Iran



Singapore



Romania



Uruguay



Republic of China, Taiwan



India



Brazil

Great Britain
& Ireland

Thailand



Chile

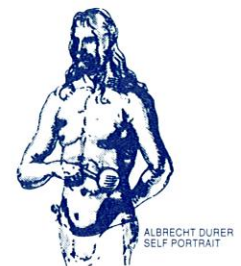
ciation. In the mid-1980s two programs were developed to provide some support: the Adopt-a-Member program, and the Adopt-a-University Library program. These were designed to provide free membership to persons with a special interest in pain treatment who are in teaching and research positions in these countries and to make IASP journals and books available to university medical libraries that would not otherwise be able to afford them. Over the years, IASP members have been generous in their support of these activities and we look for expansion of them in the future.

World Congresses. IASP holds a world congress every three years, and they have been: Florence, 1975; Montreal, 1978; Edinburgh, 1981; Seattle, 1984; Hamburg, 1987; Adelaide, 1990; Paris, 1993; and Vancouver, 1996. The 1975 Congress attracted 750 persons and the 1996 Congress over 4,200. The hard work of the Scientific Program Committees for these meetings has given the IASP congress a reputation for being the most important periodic meeting in the pain field. The congresses have also been successful in attracting a number of non-members, many of whom have subsequently "joined up". Proceedings books from the initial symposium in Issaquah and all the world congresses have been published and are considered important reference works in the field.

In 1987 IASP held its first refresher course in pain in conjunction with the Hamburg Congress and has done the same for subsequent congresses. A separate syllabus has been published for these courses.

Also by 1987, IASP was able to begin a program that provided partial financial aid to attend the congresses for persons from developing and currency restricted countries and to trainees from developed countries. For the next congress (Vienna, 1999), \$US 100,000 from the IASP operating budget has been dedicated to this support.

Chapters. One of the stated objectives of IASP was to encourage the formation of national associations (chapters) for the study and treatment of pain. Soon after the founding of IASP itself, several such groups formed; in some cases there had already been a working nucleus. In larger countries like the USA and Canada, there were regional groups that joined together to become national. Other IASP chapters that formed very early on were: Argentina, Britain and Ireland, Italy, The Netherlands, Scandinavia, and German Speaking (West Germany, Austria, Switzerland), now each an individual chapter. At present there are 42 fully enrolled chapters and 14 in formation worldwide, with the newest being the Nigerian chapter.



HAMBURG 1987

Hamburg, Germany, 1987, Vth World Congress on Pain. Poster Sessions.
(PH. H.U. DEICKE, CCH HAMBURG)

Each chapter holds an annual scientific meeting and in some cases chapters hold joint meetings. The IASP Council attempts to schedule its business meetings to coincide with the scientific meeting of a chapter so that Council members may participate in the chapter meeting as speakers. To date such joint meetings have been held with the following IASP chapters: Japan, 1982; Argentina, 1985; Scandinavia, 1986; Czech Republic, 1989; Spain, 1991; Hungary, 1992; Israel, 1994; and Poland, 1997.

Special Interest Groups. In 1989 IASP started a new program of Special Interest Groups (SIGs) which enables clinicians and researchers with specific interests in the pain field to have a forum to discuss highly specific issues in depth. These groups, reflecting the membership philosophy of IASP as a whole, must be both international and multidisciplinary. At present, the following SIGs are active:

- Pain in Childhood
- Pain and the Sympathetic Nervous System
- Clinical-Legal Issues in Pain
- Rheumatic Pain
- Systematic Reviews in Pain Relief
- Placebo
- Sex, Gender and Pain
- Urologic Pain

Award Programs

John J. Bonica Distinguished Lecture. In 1984 the Association instituted the John J. Bonica Distinguished Lecturer Award to be presented at IASP world congresses. It is presented to a person who has made a major contribution to pain research or pain therapy. Recipients to date have been:

- Edward R. Perl, MD, USA, (1984)
- Patrick D. Wall, DM, UK, (1987)
- Ronald Melzack, PhD, Canada, (1990)
- Jean-Marie Besson, DSc, France, (1993)
- Ronald Dubner, DDS, PhD, USA, (1996).

Young Investigator Award. In 1987, IASP initiated a Young Investigator Award (renamed in 1992 as the "Patrick D. Wall Young Investigator Award"), presented every three years at the time of the IASP Congress. The award is for an individual who has been active in basic or clinical research in the field of pain for ten years or less since completion of postgraduate

training and has demonstrated a record of independent research accomplishments. Recipients to date are:

- Clifford J. Woolf, MB BCh, PhD, UK, (1987)
- Jon D. Levine, MD, PhD, USA, (1990)
- Valerie Kayser, DSc, France, (1993)
- Terence J. Coderre, PhD, Canada (1996)

IASP Research Prize. In 1991, as the result of a donation to the Association, an endowment fund was set up for an IASP Research Prize, to be awarded to a trainee at the time of the World Congress. The first presentation of this award was at the 1993 Congress in Paris; recipients to date are:

- Martin Koltzenburg, MD, Germany, (1993)
- Gary R. Lewin, PhD, Germany, (1996)

John J. Bonica Trainee Fellowship. This fellowship was established in 1993 and an endowment fund started. The fund reached the necessary level of support in 1997 and the first award of the fellowship will be before the end of 1998. Established in memory of the founder of IASP, the fellowship supports training in clinical and basic science research in the field of pain. At present the award provides for one 12-month fellowship per year.

IASP Research Symposia. In late 1997, IASP established a program of IASP research symposia to foster its commitment to pain research. The first symposium was selected and funded in 1998. One symposium per year will be supported except in the year of an IASP Congress. A predetermined amount of funds is available and detailed guidelines for applications have been developed by the Committee on Research.

Other

International Pain Foundation. In 1986, several principals of IASP participated in the development of the International Pain Foundation (IPF). IPF was legally established as a distinct organization from IASP and was intended to become the fundraising arm for various activities in the pain field. There was some initial success in attracting funds, largely due to the hard work of the first chairman, John C. Liebeskind and his colleague Robert I. Wald, and the Foundation was able to provide small grants for several activities. However, it soon became obvious that potential donors were reluctant to give funds to a foundation that was truly international and might use the funds for programs outside the donor's country. At the same time, a number of IASP chapters began establishing



ΕΛΛΗΝΙΚΗ
ΕΤΑΙΡΕΙΑ ΠΟΝΟΥ
HELLENIC
PAIN SOCIETY

Greece



Mexico



New Zealand

中华疼痛学会

Peoples Republic
of China



Austria



Peru

pain foundations within their own countries to address local needs, to avoid the problems IPF had encountered, and to accommodate local tax laws. In 1994 the IPF was legally disbanded and the assets were transferred to the IASP endowment fund for the John J. Bonica Trainee Fellowship.

Special Event. In July 1987 several members of the IASP Council and IPF Board of Directors were invited to participate in a familial audience with Pope John Paul II. This took place on July 26, 1987 at Castel Gandolfo, the Pope's summer residence outside Rome, just a few days before the start of the Vth World Congress on Pain in Hamburg. The Pope made a public statement citing the importance of the work being done by IASP and its members and by IPF and presented IASP with a signed copy of the statement.

Leadership of IASP

Presidents:

Denise Albe-Fessard, DSc, France, (1975-1978)
 John J. Bonica, MD, USA, (1978-1981)
 Ainsley Iggo, DSc, FRS, UK, (1981-1984)
 Ronald Melzack, PhD, Canada, (1984-1987)
 Michael J. Cousins, Australia, (1987-1990)
 Ulf Lindblom, MD, Sweden, (1990-1993)
 John D. Loeser, MD, USA, (1993-1996)
 Jean-Marie Besson, DSc, France, (1996-1999)

Council Members (Current* and Past):

Mohammed L. Abdelmoumene, MD, DSc (Algeria)
 Sven A. Andersson, MD, PhD (Sweden)
 Allan I. Basbaum, PhD, (USA)*
 Pedro F. Bejarano, MD (Colombia)
 Aaron Y. Beller, MD (Israel) †
 Charles B. Berde, MD, PhD, FAAP (USA)
 Karen J. Berkley, PhD (USA)
 Robert A. Boas, MD, MB ChB (New Zealand)
 Sir Michael R. Bond, KB, MD, PhD, FRCS, FRCP, FRCPSych, DPM, FSA, (UK)*
 Harald Breivik, MD, PhD (Norway)
 Philip R. Bromage, MB BS (USA)
 Mary Catherine Bushnell, PhD (Canada)*
 Octavio Calvillo, MD, PhD (Mexico)
 Daniel B. Carr, MD (USA)*
 Kenneth L. Casey, MD (USA)
 Fernando Cervero, MD, PhD, DSc (Spain)*
 J. Edmond Charlton, MB BS (UK)*
 Kenjiro Dan, MD, PhD (Japan)
 Anthony H. Dickenson, BSc, PhD (UK)*
 Ronald Dubner, DDS, PhD (USA)*
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 Kathleen M. Foley, MD, (USA)
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 Gisele Guilbaud, MD, DSc (France)
 Jan M. Gybels, MD, Prof. Agr. (Belgium)
 Donna L. Hammond, PhD (USA)*



MONTREAL 1978

Montreal, Canada,
 1978, Second World
 Congress on Pain.
 Presentation of medals
 to the first IASP
 honorary members.
 L to R: James White,
 Derek Demy-Brown,
 D. Albe-Fessard
 (IASP President),
 Zdenec Kunc,
 James Hardy,
 F.D.A. Alexander,
 Cyril Keele.

PH. LUC JANSSENS, MERCED, CA, USA



CELEBRATING 25 YEARS

INTERNATIONAL ASSOCIATION FOR THE STUDY OF PAIN

Hermann O. Handwerker, Prof, Dr med (Germany)
 Albert Herz, Dr. Med (Germany)
 Wilfrid Jänig, Prof Dr (Germany)*
 Mary Ellen Jeans, RN, PhD (Canada)
 Troels S. Jensen, MD, PhD (Denmark)*
 Louisa E. Jones, BS (USA)
 Yojiro Kawamura, MD, DMS (Japan)
 Frederick W.L. Kerr, MD (USA) †
 Jean Lassner, MD (France)
 John C. Liebeskind, PhD, USA †
 Sampson Lipton, MB ChB (United Kingdom) †
 Joseph Magbagbeola, MB ChB, DA, FFARCS (Nigeria)
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 Sydney Sunderland, MD, DSc (Australia) †
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 Patrick D. Wall, DM, FRS (UK)*
 Zsuzsanna Wiesenfeld-Hallin, PhD (Sweden)
 William D. Willis, Jr., MD, PhD (USA)
 B. Berthold Wolff, PhD (USA)
 Hideo Yamamura, MD (Japan)
 Toshikatsu Yokota, MD, PhD (Japan)
 Manfred Zimmermann, Professor (Germany)

Honorary Members. From the outset, IASP has also had a special cadre of Honorary Members—persons who have made outstanding contributions to the fields of pain research, management or treatment.

These Honorary Members are:

Lord Adrian, UK †
 Denise Albe-Fessard, France
 F.A. Duncan Alexander, USA †
 Henry K. Beecher, USA †
 John J. Bonica, USA †
 Hsiang-Tung Chang, Peoples' Republic of China
 V.N. Chernigovsky, Russia †
 Derek Denny-Brown, USA †



Lisbon, Portugal, 1980,
 IASP Council Meeting,
 L: Frederick Kerr,
 R: William Sweet.

PH. L.E. JONES, IASP ARCHIVES

B. Raymond Fink, USA
 Wilbert E. Fordyce, USA
 Jan Gybels, Belgium
 James D. Hardy, UK †
 Ernest Hilgard, USA
 Raymond Houde, USA
 Ainsley Iggo, UK
 Cyril A. Keele, UK †
 Hans Kosterlitz, UK †
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 Sir Sydney Sunderland, Australia †
 William H. Sweet, USA
 Mark Swerdlow, UK
 Janos Szentagothai, Hungary †
 Ronald R. Tasker, Canada
 Ugo Teodori, Italy †
 Mario Tiengo, Italy
 Janet G. Travell, USA †
 Patrick D. Wall, UK
 James C. White, USA †
 Hideo Yamamura, Japan
 Yngve Zotterman, Sweden †

† deceased

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Lisbon, Portugal, 1980,
 IASP Council Meeting,
 Willem Noordenbos.

PH. L.E. JONES, IASP ARCHIVES



אגודה ישראלית לכאב

Israel

NVBP

Nederlandse vereniging ter Bestudering van Pijn

Netherlands



Spain



Switzerland

Herron Island,
Australia, 1990, IASP
Council Meeting,
L: John J. Bonica,
R: Patrick D. Wall
PH. J.D. LOESER, IASP ARCHIVES

The Beginnings of the Journal "Pain"

Patrick D. Wall

This journal was conceived in 1973 and the first issue was published in January 1975. It flourishes today with 78 published volumes. C. Judson Herrick, who founded the *Journal of Comparative Neurology* at the turn of the century, said "To succeed in science, you must do three things: find something no one else is working on; write a book about it, and start a journal". It is hard to remember that 30-40 years ago almost no one was working on pain. Clinicians thought it wrong to concentrate on a symptom rather than the disease which caused the symptom. Basic scientists thought that the discovery of nociceptors in the periphery and a dedicated central pathway was all that anyone needed to know about pain mechanisms. Bonica and his team had struggled since the 1950s to concentrate the minds of clinicians on the special needs of patients in pain. He thought it necessary to create communities of concerned people in single hospitals and worldwide. He therefore proposed to set up the International Association for the Study of Pain (IASP). I, as one of the growing numbers of scientists who rejected the old simplistic notions, thought that a journal to explore the clinical and basic problems would be a good idea. Bonica thought in terms of meetings perhaps with a journal to provide continuity. I thought of a journal as the main need but doubted that it would survive unless it was backed by an association. Clearly we could combine our aims and so IASP was born with its journal.



In the days before the present explosion of a multiplicity of specialist journals, we were wonderfully naive and not a little shocked to be told by major publishing companies that the subject of pain did not exist. We decided through Bill Noordenbos to approach Elsevier in his home town of Amsterdam since they had already shown their interest in journals on the nervous system by starting *Brain Research*. To our great relief, they were enthusiastic and assigned a very experienced journal editor, Elly Tjoa, as midwife for the journal and assumed full financial responsibility for the new venture. At the same time, my invaluable helper, Julia Kibblewhite, took on the responsibility of organizing the editorial office.

Now, 25 years later, the infant journal whose conception was so hesitant has grown into a healthy established adult. It has a high impact factor and ranks with the best of the life science journals. Elly Tjoa is a senior executive with Elsevier. Julia Kibblewhite remains valiantly in charge of the London office. Elsevier remains the publisher but the ownership of the journal was bought from them by IASP. As a first step in my own retirement, we split the editorship so that Ronald Dubner took over not only papers from the Americas but also played a key role in the new organization.



Paris, France,
1993, 7th World
Congress on Pain,
Ronald Dubner:
PH. SOCFI, PARIS

Throughout this steady period of growth and success, we have maintained a crucial key policy. IASP and the journal were founded on the belief that the best of clinical sciences and of basic sciences were mutually dependent. Therefore we have resisted all attempts to separate them. Furthermore, we have taken the word "study" in the title of IASP as a criterion for the acceptance of papers. This criterion must continue so long as intractable pain persists.

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Developing a Scientific Program for an IASP Congress

Troels S. Jensen

Introduction

A major event for IASP is the triennial World Congress on Pain held in different parts of the world. For almost a week scientists, clinicians, and other health care providers from all over the world have the possibility to meet and present and discuss all aspects of pain research and pain management. These congresses are part of the soul of the Association because of the fundamental idea of IASP to bring together people interested in pain so they can make the area flourish. It is therefore natural that Council wants to obtain the best program possible for these congresses.

Council has put organization of congresses into the hands of the central IASP office, a scientific program committee (SPC), and a local arrangements committee (LAC). The task for these people is simple and straightforward: present to the scientific community an attractive, informative, and exciting program. Not only should this information be applicable for developed countries but also of value for developing countries; and, it should deal with all aspects of pain in a strictly scientific manner.

Scientific Program Committee (SPC)

The scientific program committee is responsible not only for the scientific program, but also for the continuing education program, an equally important part of the meeting. This work needs close coordination, and it starts before the last congress has finished. The president-elect, with the approval of the president, appoints the new chair of the SPC for the next congress. It is his or her task to find a committee that can work well together for the next three years. The members of the Scientific Program Committee should not only be among the best, but there should also be geographical distribution, representation of the many basic science and clinical disciplines in the pain field, and gender distribution. Because of the multifaceted nature of our Association the SPC often contains 12-15 members.

Requirements of SPC Members

To be a member of SPC is of course an honor (so they say), for which you probably do not get any benefit other than the satisfaction of making a wholehearted effort and coming up with an excellent program. Fortunately, all IASP members asked to join the committee usually accept the invitation and commit themselves to this work. Why? Because it is a rewarding feeling to participate in a democratic committee together with other pain specialists from around the world and to try to present the field of pain in a manner that will improve the treatment of patients. In this scenario the chairman is merely the spokesman of other SPC members; he or she is like the conductor of an orchestra, the other committee members are the real performers.

The Work

The program work starts immediately after the past congress with an evaluation of the meeting: what was good, what was less than good. IASP members, as well as members of the newly formed SPC, are encouraged to submit suggestions for the next congress, and written evaluations of the last congress are reviewed. Gradually, a preliminary outline of topics for the next congress is created. The SPC begins more detailed correspondence and about two and a half years before the next congress the entire SPC committee meets. For two days they work intensively and draw up a plan and a schedule for what they believe is going to be a breathtaking, fantastic program better than seen at any other congress—where the newest hot stuff in pain research and treatment is presented and the state-of-the-art is described and discussed in various types of scientific sessions (e.g., plenaries, workshops, posters). An unanimous decision from SPC members about the scientific content is of course important and facilitates the approval of the outline by the IASP Council. It is important that the content of the scientific program complement the continuing education program, and the chair of the refresher courses works closely with the SPC chair.

Following approval of the program topics by Council a regular and close collaboration begins with the IASP headquarters office in Seattle. This work consists of assisting the SPC chair in preparing invitations for invited speakers, preparing instructions for authors, working with the rest of the committee to select workshop topics and speakers, and a myriad



Edinburgh
1981



Seattle
1984



Adelaide
1990



Paris
1993



Vancouver
1996

Vancouver, Canada,
1996, 8th World
Congress on Pain.
Passing the Talking
Stick to scientific
program chair,
Troels S. Jensen.
PH. BOSLEY PHOTO,
WEST VANCOUVER



Vancouver, Canada,
1996, 8th World
Congress on Pain,
IASP information
booth.
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WEST VANCOUVER



Chicago, USA, 1991,
Scientific Program
Committee meeting,
L.E. Jones, IASP
Executive Officer
PH. K. DAN, IASP ARCHIVES



of other related tasks. A year and a half before the Congress the first announcement is posted, giving general information about the Congress venue and an outline of the scientific topics. One year before the congress registration materials, including the call for abstracts for free communications (presented in poster format), are distributed to all IASP members and other interested persons. This is a list of about 24,000 names. Deadline for submission of abstracts is seven months before the congress. When the free communications abstracts have been received by the Seattle office, life starts to get really rough for the chairman (and his family). By this time the chair has selected two or three dedicated members of the SPC to assist in reviewing submitted abstracts. This core group also plans for the editing of the Congress proceedings book, published within a year of the congress, which contains a large selection of important papers from the congress. The chair will often have local assistants and, above all, a secretary that can help with many other details.

Why Do People Want To Be Chair of SPC?

The work as chair of the Scientific Program Committee is hard. It starts easily, you are flattered having been chosen; but, dear fellow IASP members, there is a day after Sunday. Work becomes increasingly more intense as the date of the congress approaches. Occasionally you have the desire to run away, knowing that this is not possible, and if you do, you will immediately have Louisa Jones on your heels (so you might as well forget it). As things get closer your time at sleep diminishes; once in a while you wake up in the middle of the night: "Have I remembered to contact Dr. Hitindu about the number of slides he can show at workshop no 62", or "I hope Louisa (Jones) will see the error in the pre-print of the Registration Material page 10, line 6," etc. There is a breath of fresh air when the abstracts and the refresher course book have gone to the printer, but it is short-lived. From here until congress there is work every day dealing with major as well as minor things. You are looking forward to an end of this marathon run.

The Local Arrangements Committee (LAC)

An important aspect of an IASP congress is the local arrangements. A Local Arrangements Committee selected carefully by Council will help give a pleasant, local flavor to the Congress, and will help with some of those last minute challenges that come up—usually having something to do with the audio/visual equip-

ment, an active press corps, etc. The central office in Seattle helps coordinate all the thousands of details that are necessary to have a successful congress. It is important that the SPC or at least the chair of the SPC and refresher course are familiar with the venue of the congress so that he /she can predict where and when specific events best take place; for this the help of the LAC is invaluable.

The Congress Itself

The congress is of course the climax of the work. It is a rewarding experience to have launched the "ship" and see it sailing. When the congress is there you and other SPC members might as well "relax" and enjoy the content and the company of fellow IASP members (because there is probably not much you can do at this moment). It is a pleasure to see the scene buzzing with life with scientific discussions going on from early morning until the end of the day, often continuing into the evening, with no geographic or cultural boundaries and no limit to the fields of interests being discussed.

It is important that the chair take the responsibility for the scientific content; if things go well the laurels can be shared with the rest of the SPC family. Every day throughout the congress week it is busy work and then one day it is suddenly over. The floors are empty, poster boards are empty except perhaps for one or two where authors have forgotten to take them down. It is a strange experience. You sit down for a moment and, with eyes closed, thoughts and memories of the past three years pass by. It is time to pack your stuff and go home.

However, it is not quite finished; once back home the next thing starts: editing the proceedings book. The first and most difficult part is to get all the manuscripts in. The book contains all the plenary lectures and a number of high quality free commu-

nication papers. Selection of the latter is left in the hands of the SPC chair and two specially selected members of the SPC. This overall work of publishing the book is only possible with a smooth and effectively running publishing department; IASP is fortunate also in this respect.

Secrets For a Successful Congress

What are the secrets for a successful congress? It depends on many things, however it is only possible if many people are willing to act together and help each other. This requires a dedicated SPC committee, hard work from an efficient central office and congress secretariat, and a good LAC committee. For the SPC chair it requires an understanding and patient family, good working conditions, willing local assistants, and a dedicated secretary that can help you .

Conclusion

To organize the scientific program of an IASP World Congress on Pain is a painful experience, but it is also a rewarding (not financially) experience, where one has the possibility to correspond, to meet, and to interact with colleagues from all over the world who are interested in pain and research. As suggested above it is like running a marathon:

- you prepare for it for a long time
- you abstain from your family for large periods for activities such as journeys, holidays, etc.
- immediately after, you say to yourself: it was a relief, but I will never, never, do it again. Knowing marathon runners, it is also clear: after a while they will be back on the scene again.

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*Belgian Pain Society
(BPS)*

*Asociación Costarricense
para el Estudio del Dolor
y Cuidados Paleativos*

*Czech Society for
the Study of Pain*

*Ecuadorian Society for
the Study of Pain*

Estonian Pain Society

*Deutsche Gesellschaft
zum Studium des
Schmerzes e.V. (DGSS)*

Hungarian Pain Society

Indonesian Pain Society

*Associazione Italiana
per lo Studio
del Dolore (AISD)*

*Japanese Society
for the Study of Pain*

25 Years of Advances in Pain Research

Anthony H. Dickenson and Henry J. McQuay

The Future Beckons

Over the past ten years we have seen more and more information about the transmitters, receptors and channels involved in the transmission and control of noxious messages. From this there are potential new targets for analgesic therapy. We now have more experimental drugs available, which allows us to study the roles of transmitter and receptors in physiological events. There are numerous animal models for clinical pain states such as inflammation and neuropathies, and these models have shown that several transmitter systems which have minor actions in acute pains can play important roles in more persistent pains. It is a salutary experience to think back to 1973, when the electrophysiological, anatomical, neurochemical, and other techniques that have shed so much light into the events that underlie pain, were only just appearing. Acute behavioral tests were practically all we had to study pain in animals, and the discovery of opioid receptors, the roles of substance P (discovered in 1931 but still in its bottle) and glutamate were yet to come. Most IASP members have by now probably heard of the NMDA receptor, but between 1966 and 1982 only 6 papers were published on this subject. In 1997 there were 570!

Over this period of time a number of new targets for analgesics have been discovered and a number of new clinical approaches to pain control have been attempted. Thus a number of major discoveries, the opioid receptors and the endogenous opioids, the spinal, supraspinal and peripheral sites of action of opioids, the peptides such as substance P and CGRP, the ability of descending controls (both noradrenergic and serotonergic) to influence pain transmission may not yet have yielded new drugs but has enormously aided the conceptual basis for understanding pain and analgesia. The consensus now is that where there is pathology, a plasticity in physiological and pharmacological functions can occur. The Gate Theory of Pain, published in 1965, made us think about changeable transmission yet the details have only recently been filled in. This plasticity, the capacity of the pain signaling and modulating systems to alter in different circumstances, has changed our ways of thinking about pain control.

Signaling events are not fixed, not the same in all situations, but subject to alteration. The net result is that there is now much potential for replacement of morphine by new analgesic agents, some with opioid actions, others not, a quest that has lasted for decades. Clinically, although the treatment of pain is much improved, and in the case of pediatric pain, is now fully recognized as being essential as compared to unnecessary 25 years ago, the need for an improvement in the treatment of pain is well-supported by a simple consideration of the number of individuals who still suffer pain.

The Scale of the Problem

There are about three million surgical interventions per year in the UK with, on average, three days of postoperative pain. There are also a huge number of patients where pain control as a result of hospital admission for other medical reasons leaves much to be desired. Of patients who suffer pain, 33% had pain all or most of the time and 87% of those with pain rated it as moderate to severe (Bruster, S., et al., 1994). If postoperative pain relief improved either with new therapies or with better application of existing ones (Kehlet, H., 1997) the cost of 9 million pain days (3 million operations with general anaesthetics per annum in the UK with an average 3 days of pain) would be reduced.

Long term chronic pain, ranging from backache to arthritis afflicts about 5 million people in Britain and in a finite proportion this pain does not respond to the currently used therapy. Twenty per cent of people with cancer have movement related or neuropathic pain which is difficult to treat, and perhaps one-third of visits to pain clinics are from patients with similar pain not due to cancer. If about 10% of the population suffer from chronic pain, and if this is unrelieved in 20%, we can calculate a conservative estimate of 365 million chronic pain days per annum in the UK alone. This degree of disability has a huge economic toll in terms of loss of employment and disability payments but quality of life is equally compromised.

More Promise

The long development time for novel analgesics clearly poses severe problems for the many patients with intractable pain who need relief now, but new technologies in the pharmaceutical industry should increase the number of promising analgesics and should speed up the development time.

High throughput screening should expedite the identification of useful agents, which, combined with



improved combinatorial chemistry, should lead to fast and efficient production of novel agents with good affinity for particular targets. Genomics can be used to identify targets related to specific disease, and, in the field of pain and analgesia, to identify targets associated with particular pathological processes within this area. Realistically many discoveries are still serendipitous, but depend on a better understanding of the neurobiology of pain, and this underlines the need to maintain a blue skies research base in this area.

New Pain Models

Until recently, investigations into the mechanisms of clinical pain syndromes relied on animal studies using acute stimuli. The symptoms of pain arising from nerve injury, neuropathic pain, such as allodynia (touch evoked pain), spontaneous pain, hyperalgesia (enhanced pain to a given noxious stimulus), sensory deficits and in some cases a sympathetic component are not replicated ensemble by acute models. There are now several animal models which mimic peripheral and central neuropathic states. The same is true for inflammation.

New Targets

New hopes for the future would include drugs acting on channels or receptors. At the level of the peripheral nerve, the roles of particular sodium channels in the generation of activity after tissue damage may provide drugs that target only pain-related activity. Agents acting on calcium channels that control both neuronal activity and transmitter release also have potential. A new generation of NSAIDs, inhibitors of the production of prostanooids which lack gastric and cardiovascular actions, are also possible.

Within the spinal cord, the release of peptides and glutamate causes activation of the N-methyl-D-aspartate (NMDA) receptor for glutamate being activated in persistent pain states which, in concert with other spinal changes, leads to the generation of spinal hypersensitivity whereby peripheral inputs are amplified. Ketamine blocks the NMDA receptor complex but there is potential for drugs which lack the psychotomimetic effects of this drug based on other NMDA-receptor antagonists such as memantine and dextromethorphan. In addition to the potential for the use of these agents alone,

the combination of NMDA antagonism with an opioid may potentiate the effects of the opioid or restore it in neuropathic pains.

Increasing inhibitory controls such as via the opioid and monoamine systems may provide novel analgesics. Almost all clinically used opioids act on the mu opioid receptor so that delta opioid receptor agonists may be potential analgesics which lack morphine-like side-effects. Very recently, the discovery of yet another opioid receptor, the ORL-1 receptor, which appears to mediate non-classical opioid effects, reveals that even opioids, one of the oldest drug classes known, are not fully exploited or understood. Our ignorance shines through.

Potent and more selective alpha-2 receptor agonists than clonidine are also expected, and the multitude of receptors for 5HT lends hope for future analgesic agents based on manipulation of this transmitter. The basis for the role of antidepressants and other adrenergic agents in the treatment of neuropathic pain is still not understood, because both central and peripheral actions, including sympathetic effects, are possible. Understanding exactly how and where anticonvulsants such as carbamazepine and gabapentin work would also aid the treatment of nerve injury pains.

A final approach, and perhaps the most interesting, would be the production of single molecules with dual pharmacological actions, encompassing combinations of the effects of drugs with different sites and types of action. Additive or synergistic effects may enable good pain relief without adverse side effects.

One important lesson of the past 25 years is that we have been slow to realize that even when knowledge is known it still has to be implemented. The variation in the standard of care is something which we could remedy by improving education. Traditionally such implementation work carries little kudos, but that we have to change—a target for the next 25 years.

References

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Kenya

The Korean Pain
Research SocietyLithuanian Association
for the Study of PainMalaysian Association
for the Study of PainPanamanian Society
for the Study of PainPolskie Towarzystwo
Badania BóluAssociação Portuguesa
para o Estudo da DorRussian Association
for the Study of PainSlovak Society for
the Study and Treatment
of PainSlovenian Association
for Pain Management

Tunisia

New Techniques, Targets and Treatments for Pain: What Promise Does the Future Hold?

Allan Basbaum

Almost ten years ago Jean-Marie Besson and I organized a Dahlem conference meeting in Berlin, which brought together pain researchers and clinicians as well as scientists from outside the pain field. The objective of the meeting was to identify new avenues of treatment for pain, based on the new information from the laboratories of pain researchers and from information coming from emerging fields. We were asked to provide a title for the conference and so we not unreasonably chose: "Towards a New Pharmacotherapy of Pain: Beyond Morphine".

Unfortunately, although there was tremendous enthusiasm at the meeting (which coincidentally was held during the tearing down of the Berlin Wall, another source of pain relief), the optimism that that title conveyed was replaced by realism, realism that was demanded by the facts. Despite the incredible progress that was occurring in pain research, it was clear that morphine was, and still is, the drug of choice for severe pain. Thus, "Beyond Morphine", was dropped from the title of the proceedings book that was eventually published. Well, ten years have passed, and it is now the 25th anniversary of the founding of the IASP. How close are we to going "Beyond Morphine"? Despite conservatism based on the once bitten, twice shy principle I am, in fact, again optimistic. In the following brief review, I will try to illustrate the basis for my optimism.

Perhaps the most important change in our approach to developing new pain therapies is the recognition by many basic scientists and clinicians that pain is not just a symptom of disease. Rather it is a disease entity itself. This conclusion follows from the enormous amount of data that illustrate that the nervous system is dramatically, and perhaps, permanently altered in the setting of pain. Plasticity of pain processing systems is the word of the day. We now speak of memories of pain, a simple word taken from the learning literature, but one that underscores

the fact that persistent injury and untreated pain induce long term changes in the central nervous system. Having recognized that these changes occur, one immediately turns attention to the factors that contribute to the long-term changes, and one asks how they can be prevented. Treating pain now rarely involves attempts to interrupt "pain pathways" or nociceptive inputs. Rather drugs are being developed to block the induction of these long-term changes, i.e. the central sensitization that develops in the setting of tissue or nerve injury.

Information about the biochemical basis of injury-induced long-term changes/central sensitization, in fact, has mushroomed. The NMDA receptor remains a key therapeutic target. The Ca²⁺ that is gated by this receptor is critical to the activation of a host of second messenger systems that we now know are critical to the development of central sensitization. The problem, of course, has been that the side effect profile of NMDA antagonists is totally unacceptable; but the target remains and the pharmaceutical industry continues to search for more selective drugs. Indeed there are now selective antagonists of subtypes of the receptor; these may prove to be more useful clinically. Other studies point to the specific second messenger systems that are involved, including a variety of protein kinases that regulate that basic biochemistry of the neuron, control gene expression, influence neurotransmitter receptor sensitivity, etc.

In great part this research has been facilitated by the development of gene knockout strategies, which permits one to create a mouse with a specific gene deletion. Our own laboratory has implicated a particular isoform of protein kinase C to the development of nerve injury-induced neuropathic pain. Herein lies another source of optimism, not so much because of the existence of the technology, but because it has dramatically expanded our ability to assess the contribution of distinct molecular entities, which cannot be individually and selectively blocked with pharmacological antagonists. For example, there are at least ten isoforms of serotonin receptor and an equal number of glutamate receptors. But, we do not have the tools to pharmacologically and selectively block each of these different receptors so that their contribution to pain processing can be studied in isolation. By knocking out the gene for a given receptor, it is possible. With the emerging development of inducible knockout techniques, it should be possible to

study the contribution of specific molecules not only to the development of particular pain conditions, but also to their maintenance. The ability to generate the knockout of a particular gene in the adult (and to reverse the knockout through inducible strategies) will be incredibly valuable. Interestingly, the ability to target drugs to the spinal cord is very important, as it is possible to target the knockout selectively to the cord (so that the brain is not concurrently affected). Brain researchers don't have that luxury.

The techniques of molecular biology have, in fact, already identified novel targets for therapy. What is particularly exciting to me is the recent evidence that demonstrates that the C-fiber nociceptor has a unique molecular signature that distinguishes it from other neurons in the peripheral and central nervous systems. We have known for years that this neuron uniquely expresses the capsaicin receptor (which has recently been cloned and proven to be involved in noxious thermal sensibility), but there are many other molecules that contribute to this signature. For example, although Na channels are expressed by all neurons, only the C-fiber nociceptor expresses a Na channel that is resistant to the puffer fish toxin, tetrodotoxin. Can this feature be used to develop a local anesthetic that uniquely blocks the C-fiber nociceptor? If so, then a selective block of nociceptive inputs can be envisioned, with minimal side effects. The C-fiber nociceptor also expresses unique subtypes of purinergic receptors, namely the PTX3 receptor. Time will tell whether targeting of this receptor with selective antagonists will prove beneficial. No doubt there are other proteins, channels, receptors, etc. that molecular approaches will reveal to be unique to the nociceptor. It is of interest that the tools for identifying the biochemical signature of the nociceptor have been around for years, but only recently has the pain field attracted scientists who use them. Perhaps the excitement of having a major clinical problem so amenable to study with modern molecular tools is the attraction. Whatever the reason, it bodes well for the future development of novel treatments.

The primary afferent is also of interest as a target for variety of neurotrophins. These influence the development, growth and response to injury of the nociceptor. Different classes of nociceptors express different neurotrophin receptors. For example, the peptide containing nociceptors express TrkA, a tar-

get of nerve growth factor. The non-peptide population expresses receptors for a glial derived neurotrophic factor. Because injury dramatically alters the sensitivity of these neurons to neurotrophins, this feature is being studied both in the laboratory and the clinic. Already under clinical investigation is that possibility that neurotrophins can be used in specific neuropathic pain conditions, where there is damage to peripheral nerves.

Has knowledge about the molecular biology of nociceptors made pain a target for gene therapy? The initial optimism that gene therapy would be useful for treating a host of diseases has been tempered dramatically by disappointing early results. Despite the identification of genes for cystic fibrosis, for example, replacement therapy that works in culture has not yet proven useful in the clinic. For this reason, it is difficult to estimate the likelihood that manipulating genes can treat pain. Yet, there is evidence that certain pain conditions may have a molecular basis and thus this avenue of research needs to be pursued. For example, numerous studies have identified gender differences in the transmission of nociceptive messages and in the responsiveness to analgesic drugs;



Stockholm, Sweden, 1986, IASP Council Meeting, L: Paolo Procacci, R: John Liebeskind

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these are likely to have some genetic basis. Certainly studies in different strains of mice have revealed enormous variability in nociceptive processing.

But if specific genes cannot yet be targeted for correction, what about targeting specific proteins, or targeting the neurons that express a critical protein? Can these neurons be selectively eliminated, and if so, would we want to eliminate them? In fact, it is now possible to selectively destroy subclasses of nociceptive neuron using neurotransmitter-coupled toxins. After binding to their receptor, the neurotransmitters are taken up by the neuron and because they are bound to the toxin, which cannot enter neurons alone, the neurons are ultimately destroyed. Studies in animals are incredibly exciting; whether this approach can be adapted for pain therapy in the clinic remains to be seen. An alternative approach, of course, is to use neurotransmitter to carry therapeutic agents to neurons, rather than to destroy them. Understanding the biochemistry of neurons, and the molecules that contribute to the development of persistent pain conditions, is but the first step in working out therapies. Hopefully, once the targets are identified (and new ones appear regularly) it will only be a delivery problem that we are faced with when we wish to interrupt what the preclinical studies indicate are the plastic changes that underlie persistent pain conditions.

In addition to identifying the circuits and neurochemicals that underlie the development and persis-

tence of pain, the field of pain has also been dramatically altered by the development of new imaging techniques. These approaches will not tell us where pain is in the brain; few people believe that a perception as complex as pain will be localized to one brain area. But, these imaging approaches do provide an incredible opportunity to study the phenomenology of pain and to compare different pain conditions, and possibly to develop more objective measures of the pain experience. Do all analgesic drugs alter an fMRI or PET image in the same way? What is the pattern of brain activity in different neuropathic pain conditions? Is the brain "experience" of the spontaneous pain associated with postherpetic neuralgia and diabetic neuropathy the same? Can we better appreciate and study the psychological factors that influence pain perception by monitoring cortical activity than by using complex pain questionnaires? As the quality and resolution of the images improve, answers to these and other questions will be forthcoming. They will definitely impact our understanding of pain processing mechanisms and hopefully will contribute to the development of new approaches to pain assessment and treatment. Certainly a better objective measure of a patient's pain will have enormous value.

Finally and perhaps most importantly, my optimism for the future is derived from the fact that funding for pain research is on the rise, at least in the U.S. Hopefully the same is true elsewhere. Just in the last year, the National Institutes of Health in Washington sponsored several symposia on pain. The NIH is committed to significantly increasing funding for pain research and, in fact, recently put out a call for more pain proposals. They want to fund more pain research. That will not only greatly facilitate the work of those already in the field but will encourage scientists from other disciplines to enter the field. Finally, it will encourage the bright young students to look to pain research as a career. That may be the greatest harbinger of new breakthroughs in pain treatment. I don't expect that we will be beyond morphine next year, but it definitely will not be another thirty years before new and effective treatments are in common use.

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Adelaide, Australia,
1990, VIth World
Congress on Pain.
25th Anniversary of the
publication of the Gate
Control Theory. L to R.
Ronald Melzack,
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IASP Publications

Task Force/Committee Publications

- 1974 - IASP Newsletter
- 1975 - Journal *PAIN*
- 1975 - IASP Directory of Members
- 1983 Ethical Guidelines for Investigations of Experimental Pain in Conscious Animals
- 1986 Classification of Chronic Pain
- 1987 - List of Training Opportunities in Pain
- 1990 Desirable Characteristics for Pain Treatment Facilities
- 1990 Standards for Physician Fellowship in Pain Management
- 1991 Core Curriculum for Professional Education in Pain
- 1992 - Annual Report
- 1994 Classification of Chronic Pain (2nd Edition)
- 1994 The Management of Acute Pain: A Practical Guide
- 1995 Ethical Guidelines for Pain Research in Humans
- 1995 Back Pain in the Workplace: Management of Disability in Nonspecific Conditions
- 1995 Core Curriculum for Professional Education in Pain (2nd Edition)
- 1996 Pain in the Elderly

Curricula on Pain

- 1988 Medicine
- 1993 Dentistry
- 1994 Pharmacy
- 1994 Nursing
- 1995 Occupational Therapy and Physical Therapy
- 1997 Psychology

Congress Publications

- 1975 - Congress Abstract Book (8 published to date)
- 1975 - Congress Proceedings Book (8 published to date)
- 1987 - Refresher Course Syllabus (4 published to date)

IASP Press Books (not included above)

- 1994 Pharmacological Approaches to the Treatment of Chronic Pain: New Concepts and Critical Issues
- 1994 Touch, Temperature, and Pain in Health and Disease: Mechanisms and Assessments
- 1995 Temporomandibular Disorders and Related Pain Conditions
- 1995 Visceral Pain
- 1996 Reflex Sympathetic Dystrophy: A Reappraisal
- 1996 Pain Treatment Centers at a Crossroads: A Practical and Conceptual Reappraisal
- 1997 Molecular Neurobiology of Pain
- 1998 Measurement of Pain in Infants and Children
- 1998 Sickle Cell Pain
- 1998 Assessment and Treatment of Cancer Pain
- 1998 Pain and Suffering

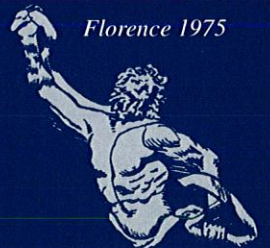
CELEBRATING 25 YEARS
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PH. FOTO TORRINI, FIRENZE

Palazzo Vecchio, Florence, Italy, 1975. Opening reception for the First World Congress on Pain.

Florence 1975





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