simple fluid" was by Dr J.N. Dunwoody of Queen's University, Belfast, and the second on "Inhomogeneous plane waves" by Prof. M.A. Hayes of U.C.D. Prof. P.M. Quinlan of U.C.C. deputised for Prof. M.M. Carroll of the University of California, who was unable to attend. Prof. Quinlan spoke on "The complex displacement method in elasticity".

The conference was attended by Prof. J. Ericksen of the University of Minnesota who was recently the recipient of an honorary degree from N.U.I.

G. Kelly

GROUPS IN GALWAY 11-12 MAY 1984

A conference on Group Theory sponsored by the Irish Mathematical Society, Royal Irish Academy and University College, Galway, was again held at University College Galway on Friday-Saturday 11-12 May 1984. The main speakers were David Lewis (U.C.D.), Charles Leedham-Greene (Q.M.C. London), Pat Fitzpatrick (U.C.C.), Marty Isaacs (Wisconsin), Ted Hurley (U.C.G.) with further contributions from Rex Dark (U.C.G.), Mark Cartwright (Christ Church, Oxford) and Martin Newell (U.C.G.). A very successful addition to the Conference this year was a Problem Session in which many of the participants contributed a number of unsolved problems for discussion.

David Lewis spoke on the Merkuryev-Suslin Theorem (see article in this issue). This Theorem, concerning the algebraic K-theory and the Brauer group of a field, has only recently (1982) appeared, but has already answered many hard problems in simple algebras, quadratic forms and in algebraic geometry. It is destined to become a classic which people in many areas will find useful. David very eloquently set the scene and led us through an outline of this famous result.

Charles Leedham-Greene spoke on "Space groups and p-groups"

and reported on work by S. McKay, W. Plesken, M.F. Newman and himself. The idea is to classify p-groups according to co-class (if $|G| = p^n$ and G has nilpotency class c then co-class G = n-c). There are 5 co-class conjectures and one of these involving a tremendous amount of hard mathematics has recently been settled by Charles and others.

Pat Fitzpatrick gave an excellent survey of problems, questions and some answers concerning boundedness of conjugacy classes of a finite group in his talk "Some questions on conjugacy". If $m_i = |C(g_i)|$ and $|G| = m_1 \geq m_2 \geq \ldots \geq m_k$, then the idea is to look at k and the m_i and determine properties of G from these (e.g. $m_1 > m_2 > \ldots > m_k$ and G supersoluble $\Longrightarrow$ $G = S_3$).

Marty Isaacs spoke on "Characters of soluble groups". If Π is a set of primes, G* = set of Π-elements in G, the idea is to find a good basis for the vector space of "class functions" of G*. His results can be applied to Π-separable groups. This is a unique approach to this vast area and is certain to lead to new developments.

It is a pleasure to be able to state that the reporter understood every little detail of Ted Hurley's talk "What can you do with a set of variables?"! This surveyed the connections between various objects, groups, Lie Algebras, Polynomial Rings, Power Series Rings, group algebras, varieties and some of the associated problems, e.g. Burnside's, Dimension Subgroup problem, isomorphic group rings problem. Modesty forbids further comment!

Further contributions included Rex Dark "Isotropic tensors and symmetric group algebras" (see I.M.S. Newsletter, December 1983, No. 9); Mark Cartwright "Bounded conjugacy conditions"; and Martin Newell "2-generator groups of exponent $\leq p^3$".

We would like to thank all our speakers, contributors and participants for their continued support and we hope to continue

with "If it's May, it must be Galway (Groups)".

We are also happy to report that the famous group theory program CAYLEY has now been implemented at U.C.G. This is a tremendously powerful program (about 4500 blocks - ¾ million lines of FORTRAN) which has taken over 10 years to develop. It can deal with computations in, e.g. finite presented groups, permutation groups, matrix groups, low index subgroups, character tables and has over 200 algorithms. It is used in some universities for undergraduate teaching of group theory - it has its own mathematical language and no knowledge of programming is required. We also hope to implement MATRIX soon on a trial basis. This is an undergraduate teaching aid developed by John Cannon and a group at Sydney (who are also responsible for CAYLEY). It is best described as a *laboratory tool* (and so is not a "package" as such) for mathematics and I understand that this particular program will include among others, Gaussian Elimination, eigenvalues-vectors, linear (in)dependence, simplex algorithm. Others being developed are NEWTON (calculus!), KOENIC (graph theory).

Ted Hurley

CONFERENCE ANNOUNCEMENTS

PROTEXT I

The First International Conference, Exhibition and Workshop on Text Processing Systems

Gresham Hotel, Dublin, Ireland
22 - 26 October, 1984

Organised by Professor John Miller, Trinity College, University of Dublin

Aims and Scope

These events aim to bring together a cross-section of people from business, industry and academia who share an interest in computer-aided text processing systems. Particular emphasis will be placed on the following areas:

* computer-aided generation of generalised copy (e.g. graphics, mathematical, non-English language)
* computer generated book-quality masters for print production
* interactive editing systems
* computer-aided typography
* human factors (e.g. the handicapped, the unions).

Both software and hardware aspects are included.

Conference (24 - 26 October 1984)

This will consider future developments and current research in both the hardware and software areas. Keynote speakers at the conference include:

Brian Kernighan (Bell Laboratories)
Pierre MacKay (University of Washington)
Brian Reid (Stanford University)