and that other inactive sympathetic or high-threshold slow afferents may have been overlooked. Of the physiologically identified units, 33 were cutaneous (18 hair, 8 pressure, 7 other) and 24 were proprioceptive (11 spindle primaries, 4 spindle secondaries, 4 Golgi tendon organs, 5 knee joint). Of the 18 hair receptors, 13 had stable activity patterns during walking, although 7 of the 13 had receptive fields not contacted by any object during walking. Units responsive to light touch were usually active when their fields were directly contacted, but in two of four units exhibiting skin-stretch sensitivity, events not associated with contact dominated the firing patterns. About 30 to 40 percent of all units identified under anesthesia were either inactive or unseparable from other units and noise during walking. Units active during walking are almost always recorded during the identification process but may defy attempts at physiological identification even with extensive dissection.

We have been impressed by the complexity and individuality of the firing patterns of most receptors studied. Many of these patterns would have been difficult to predict despite the availability of extensive information on receptor properties obtained by short-term studies. In extrapolating from receptor responses to artificial stimuli applied to immobilized animals, one is handicapped by the inability to predict accurately the occurrence of the effective stimuli during normal movements. The method we describe should be useful in determining the conditions during which a given afferent could contribute to modulation of motor output. It remains to be determined whether the special information content apparent in each unit's firing pattern is "used" by the central nervous system.

Long-term recording from peripheral afferents may also find clinical application in the new field of neural prosthesis. Recent progress in restoring function to limbs paralyzed by spinal cord injuries has demonstrated the feasibility of electrically stimulating existing musculature (*18*). As unit stability and electrode longevity are improved, devices for functional neuromuscular stimulation should benefit from the application of sensory feedback, which may be obtainable from intact skin and proprioceptors according to this technique.

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7. Electrode impedance is 100 to 250 kilohms and is stable for more than 2 months. Thermal, amplifier, and biological noise is usually below 20 μv peak to peak, and action potentials are typically 50 to 400 μv. Electrodes correctly inserted into the DRG proper almost always record separable units unless and until the insulation deteriorates.
8. A 90 percent platinum and 10 percent iridium alloy with Pyre-TML (polyimide) insulation (California Fine Wire Company, Grover City, Calif.) is stiff enough to penetrate the DRG but flexible enough to yield with normal movements.
9. Floating cut wires were originally used in the brain by J. Olds, J. F. Disterholt, M. Segal, C. L. Kornblith, and R. Hirsh [*J. Neurophysiol.* **35**, 202 (1972)] and refined for the cerebral cortex by M. Salcman and M. J. Bak [*IEEE Trans. Biomed. Eng.* **20**, 253 (1973)].
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11. The animal does not object to having the saddle manipulated (for example, while cables are being attached) and is readily discouraged from chewing anchor sutures when bitter apple is spread on them.
12. The unipolar axon approaches the soma via a long, tortuous, and unmyelinated glomerular segment, which gives unit recordings distinctive polyphasic signatures.
13. Probably type G2. [P. R. Burgess, D. Petit, R. M. Warren, *J. Neurophysiol.* **31**, 833 (1968)].
14. We hypothesize that this unit was sensitive to hair movements or skin stretch generated during active toe movements prior to foot placement. Similar but less consistent midswing activation has been seen in an SAII light-touch receptor (*13*) in a toepad, where it may have been related to claw extension. Pauses after footfall may reflect rapid adaptation to a constant deformation typical of hair receptors.
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16. It is anatomically possible although statistically unlikely that this unit was a popliteus muscle spindle secondary [P. R. Burgess and F. J. Clark, *J. Physiol. (London)* **203**, 317 (1969)].
17. The time course of the rate of firing was similar to the time course of vertical force recorded during walking by J. T. Manter [*J. Exp. Biol.* **15**, 522 (1938)]. A similar firing pattern was seen in a Golgi tendon organ (GTO) from triceps surae, except that the GTO began to fire during late swing extension before load bearing began.
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19. The transducer was a saline-filled length of Silastic tubing stretched between tibial ridge and calcaneus with platinum electrodes at each end [modified from V. J. Prochazka, R. A. Westerman, S. P. Ziccone, *Electroencephalogr. Clin. Neurophysiol.* **37**, 649 (1974)].
20. We are grateful for the advice and criticisms of K. Frank, R. E. Burke, and W. B. Marks and technical assistance of G. Dold and B. Weston.

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Electrochemical Growth of Organic Charge-Transfer Complexes

There has been a surge of interest in the properties of highly conducting inorganic and organic salts. In many studies high-quality single crystal samples are a prerequisite for meaningful experiments. Single crystals are generally produced either by evaporation from solution or by solution diffusion techniques. In a recent report (*1*) Miller showed that some highly conducting inorganic crystals such as $K_2Pt(CN)_4X_{0.3} \cdot 3H_2O$ (where X = Cl or Br) can be grown directly on a needle electrode by electrolysis.

This same method of electrolysis was used earlier to prepare some organic charge-transfer complexes (*2*). These crystals are produced by the electrolysis of a tetrahydrofuran solution of pyrene and the supporting electrolyte tetrabutylammonium perchlorate. The process consists of the oxidation of the parent hydrocarbon at a platinum electrode followed by the immediate interaction of this cation with the anion of the supporting electrolyte, giving rise to crystal formation. The crystals appear as black needles which can grow up to 3 mm long. In the particular case mentioned above, stoichiometric analysis showed the crystals to be pyrene$_2$perchlorate, but, if the electrolysis parameters are changed, pyrene perchlorate can be produced. Crystal growth is very rapid initially; in less than 1 second very fine crystals (up to 3 mm long) form and then fall away from the electrode as a result of the movement of the liquid. This rapid growth shows that the crystals are at least as conductive as the solution; they have a very low resistance. A thicker, slower growth then follows from which single crystals can be harvested. This growth sequence has been recorded on film (*3*).

The technique of electrolytic growth of single crystals has a far wider application than just inorganic materials. With organic systems it is possible to prepare high-quality single crystals of complexes which seemingly cannot be prepared by the more well-known methods. The importance of this feature in the light of the current interest in such conducting organics as the tetracyanoquinodimethane (TCNQ) salts is obvious.

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