This dual action of angiotensin II suggests several possibilities for the site of action of sodium concentration change and one possibility was that it might modify the action of liberated ACh. However, the high sodium medium did not augment the contractile response to added ACh, but in both high and low sodium media the response was reduced, often substantially (Figure 3). A small reduction of response to ACh occurred in standard Ringer over 2–3 h.

In view of this finding we examined the effect of raising the sodium concentration (+ 30 meq./l) in media containing atropine at 10^{-6} g/ml, which abolished the response to $5 \cdot 10^{-7}$ g/ml ACh. The potency of angiotensin II was increased approximately tenfold in the high sodium as compared with the normal sodium media.

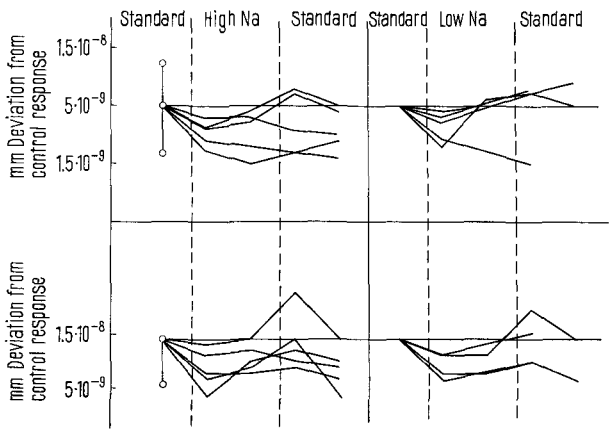

Fig. 3. Contractile response to acetylcholine.

KHAIRALLAH and PAGE[7] concluded that, besides the smooth muscle cells of the ileum, only the intramural post-ganglionic neurones respond directly to angiotensin. LEWIS and REIT[8] have demonstrated that angiotensin is indeed a potent stimulant of autonomic ganglia. There is the further possibility that angiotensin may release other mediators of the contractile response. Experiments are continuing to examine the possible sites where sodium may influence the action of angiotensin.

Zusammenfassung. Die kontraktile Reaktion des isolierten Meerschweinchen-Ileums auf Angiotensin II variierte direkt mit der Natriumkonzentration der Nährflüssigkeit, nicht aber bei ACh; Atropin (10^{-6} g/ml) reduzierte die Wirkung auf Angiotensin um 60–70% und hob die Wirkung auf äquivalente Mengen von ACh auf. In atropinhaltiger Ringerlösung potenzierte ein hoher Natriumgehalt (+ 30 meq./l) die Reaktion auf Angiotensin zehnfach.

J. R. BLAIR-WEST and J. S. MCKENZIE

Howard Florey Laboratories of Experimental Physiology, Department of Physiology, University of Melbourne, Parkville, N.2, Victoria (Australia),
January 14, 1966.

[8] G. P. LEWIS and E. REIT, J. Physiol. London *179*, 538 (1965).

Naringenin Inhibition on Explants in vitro of *Cichorium intybus* (Chicory)

Naringenin (5, 7, 4′-trihydroxyflavanone) is considered[1,2] one of the inhibitors regulating the dormancy of peach flower buds, while DENNIS and EDGERTON[3] and we ourselves[4] have shown that the naringenin level is not correlated to bud development. Besides, this substance considerably inhibits cell elongation[3,5] and in vitro causes a weak inhibition of proliferation, induced by 3-indoleacetic acid, of *Helianthus tuberosus* explants[6].

There are no data on naringenin inhibition of organogenesis in vitro. As chicory roots (*Cichorium intybus*) in vitro may form buds[7], we have studied naringenin's effect on this organogenesis.

Prismatic (1 cm) explants from sterile roots, containing vascular parenchyma, cambium and phloem, were utilized. These were placed in vitro with radical parts in a nutritive medium[8] with glucose 5% and agar 1.2%. Concentrations of naringenin (Calbiochem) between 10^{-4} and 10^{-7} *M* were utilized with a control in basal medium alone. 16 replications were utilized for every concentration. The cultures were randomized and grown in a culture room at 25 °C in continuous light of 1800 lux. The experiment was repeated thrice at different times with similar results. In the Table the results refer to a single experiment.

It is evident that naringenin 10^{-4} *M* completely blocks bud formation. Concentrations of naringenin between 10^{-5}

Naringenin effect on bud formation in explants in vitro of chicory roots: % of buds compared with control = 100

Molar concentrations of naringenin	Age of cultures (days) 7	9	11	13	15
0	100	236.61	245.70	250.86	256.02
10^{-4}	0.00	0.00	0.00	0.00	0.00
10^{-5}	10.81	106.39	150.12	177.39	188.21
10^{-6}	26.29	147.48	173.71	190.42	200.49
10^{-7}	49.14	147.42	157.25	188.21	196.56

[1] K. L. J. BLOMMAERT, Sci. Bull. Dep. Agric. For. Un. S.A. *368*, I (1955).
[2] C. H. HENDERSHOTT and D. R. WALKER, Proc. Am. Soc. hort. Sci. *74*, 121 (1959).
[3] F. G. JR. DENNIS and L. J. EDGERTON, Proc. Am. Soc. hort. Sci. *77*, 107 (1961).
[4] N. BAGNI, G. CRISTOFERI, and D. SERAFINI FRACASSINI, Atti del Congresso del Pesco, Verona 20–24 luglio 1965, in press.
[5] J. P. NITSCH and C. NITSCH, Bull. Soc. bot. Fr. *108*, 349 (1961).
[6] J. P. NITSCH and C. NITSCH, Bull. Soc. bot. Fr. *107*, 326 (1960).
[7] R. J. GAUTHERET, *La culture des tissus végétaux* (Masson et Cie, Paris 1959), p. 266.
[8] F. BERTOSSI, N. G. Bot. Ital. n. s. *66*, 497 (1959).

and $10^{-7}M$ cause a significant inhibition, compared with control, but only in the initial stage; this inhibition then gradually diminishes. The block of bud formation induced by naringenin $10^{-4}M$ remains for 50 days at least; also callus is strongly reduced, while in the other concentrations this is normal. A test was also made on 50-day-old cultures to verify whether or not they contained naringenin. The extraction and spectrophotometric dosage were made according to the method of flavonoid compounds[9] modified for naringenin[4]. UV-spectra in ethyl ether did not reveal the maximum absorption characteristic of naringenin, but there were two different substances (or two groups of substances), presumably flavonoid compounds, respectively one from control and the other from naringenin $10^{-4}M$ cultures, whose identification is being examined at the present time.

In short, only naringenin $10^{-4}M$ completely inhibits bud formation in explants in vitro of chicory roots, also reducing callus without, however, blocking.

Riassunto. La naringenina alla concentrazione di $10^{-4}M$ inibisce in modo totale l'emissione di gemme in radici di *Cichorium intybus* in vitro senza tuttavia bloccare completamente la callogenesi. A concentrazioni scalari minori (10^{-5}, 10^{-6}, $10^{-7}M$) questa sostanza causa una inibizione solo nella fase iniziale dell'esperienza.

N. Bagni and D. Serafini Fracassini

Istituto Botanico and Istituto di Coltivazioni Arboree dell'Università di Bologna (Italy), December 24, 1965.

[9] T. A. Geissman, in *Moderne Methoden der Pflanzenanalyse* (Eds. K. Paech and M. V. Tracey; Springer-Verlag, Berlin 1955), vol. III, p. 450.

Polytäne Chromosomen im Bereiche der Prothoracal-dorsal-Imaginalscheibe von *Drosophila melanogaster*[1]

Die dorsale Prothoracal-Imaginalscheibe enthält die Primordien, die sich in der Metamorphose zum Humeralteil des Thorax differenzieren. Als versucht wurde, diese Imaginalscheibe nach der von Hadorn[2,3] entwickelten Technik im Adultabdomen zu kultivieren, ergaben sich unerwartete Schwierigkeiten. Im Gegensatz zu anderen Primordien desintegrieren die Zellen der Prothoracalanlage leicht.

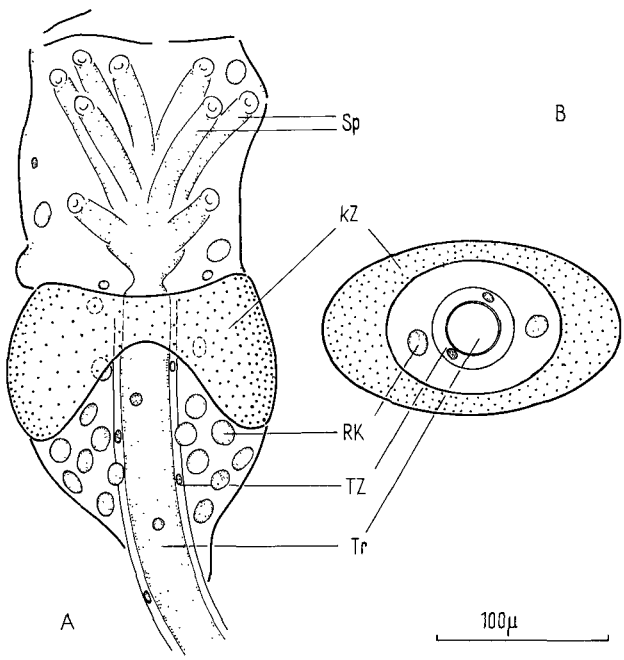

Fig. 1. Bau des Prothoracal-dorsal-Komplexes (schematisch). A: Lateralansicht. B: Querschnitt auf der Höhe der kleinen Zellen. Sp, Spiracularpapillen; Tr, Trachee; TZ, Trachealzellen; kZ, kleine, undifferenzierte Zellen; RK, Riesenkerne der grossen, schwer abgrenzbaren Zellen.

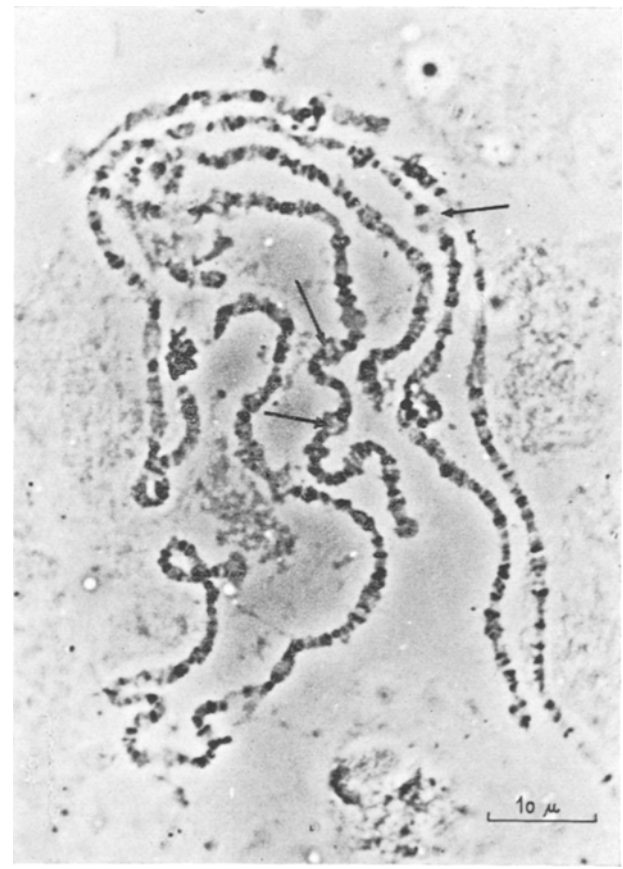

Fig. 2. Polytäne Chromosomen aus dem Prothoracal-dorsal-Komplex von *Drosophila melanogaster*. Die Pfeile weisen auf Puffs hin.