DISSERTATIO ACADEMICA

HISTORIAM DOCTRINÆ

DE

AFFINITATIBUS CHEMICIS

EXHIBENS,

CUJUS PARTEM UNDECIMAM

CONSENSU AMPLISS. FAC. PHIL. ABOËNS.

PRÆSIDE

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CHEMIÆ PROFESSORE PUBL. ET ORD., COLLEGII IMP. MED. ASSESSORE ET EQUITE ORD. IMPER. DE ST. WOLODIM. IN IV:TA CLASSE; ACAD. IMP. SCIENT. PETROPOL. ET SOCIET. LIB. OECONOM. PETROP. MEMBRO CORRESP., SOCIET. IMPER. NATURÆ STUDIOSOR. MOSCOVIT., SOCIET. IMP. OECON. FENN., ACAD. CÆSAR. NAT. CURIOS. ERLANG., REGG. ACADD. ET SOCIETT. SCIENTT. HOLMIENSIS, DUBLINENSIS, UPSALIENSIS, GÖTTINGENSIS, SOCIET. ANTEHAC MED. CHIRURG. ET PHARMAC. BRUXELLENSIS, SOCIETATIS PHYSIOGRAPH. LUNDENSIS, SOCIET. MINERALOG. JENENSIS, SOCIET. SCIENT. NATURAL. MARBURGENSIS MEMBRO;

PRO GRADU

PUBLICO EXAMINI SUBJICIT

GUSTAVUS WILHELMUS EKQVIST,

BOREA-FENNO.

IN AUDIT. PHILOS. DIE IX DEC. MDCCCXVIII.

H. A. M. S.

ABOÆ, TYPIS FRENCKELLIANIS.

15.

Valde probabile eſt, chemice compoſita eſſe omnia corpora ſenſibus noſtris patentia, quamvis per experimenta chemica compoſitionis nonnullorum nulla acquiſita ſit, aut unquam acquiri poſſit notio.

16.

Quemadmodum mente concipi poſſunt quantitates inæquales cujuscunque generis, infinite vel majores vel minores iis, quas, pro captu ſenſuum noſtrorum finitas dicimus, ſic fieri utique poteſt, ut rationes partium in corporibus conſtitutivarum infinitis gradibus ab iis differant, quas ſuis experimentis detexerint chemici.

17.

Hinc ad fidem pronum habemus, quod nonniſi relativa ſit omnis hucusque obſervata homogeneitas corporum, atque, quod, ſi eo usque pertingat acies humana, ut diſcernantur particulæ infinite parvæ, videantur in homogeneis moleculæ heterogeneæ mechanice inter ſe mixtæ.

18.

Notioni experientia acquiſitæ congruenter non poſſumus non prima corporum ſtamina ut moleculas quantumvis parvas conſiderare, iis dotatas proprietatibus, quas in majoribus corporum maſſis obſervamus, & ad commentitias fabulas eorum relegare ſententiam, qui ex meris viribus inter ſe conſligentibus natas eſſe perhibeant ſubſtantias palpabiles.

19.

Concedimus plurimis hodiernorum, phænomena *caloris*, *luminis* variis *coloribus* conſpicui, *luminis inviſibilis* & *electricitatum* a materiis imponderabilibus dependere, & veriſimillimam cenſemus eſſe hypotheſin, quod ſingula eorum e diverſis nonnullarum ſubſtantiarum functionibus originem ducant.

20.

Hodiernæ experientiæ optime convenire contendimus ſententiam eorum, qui inter ſubſtantias imponderabiles in corporibus latentes maximam ſimplicitatem tribuant duabus electricitatibus, atque ex harum concurſu derivent & ignis & caloris & lucis phænomena.

21.

Phænomena radiantium & a ſpeculis reflexorum obſcuritatis & frigoris, quæ emiſſis particulis luminis atque calorici interpretari conati ſunt nonnulli, vix intelligi poſſe autumamus, niſi ponatur, & lumen & tenebras e duabus ſubſtantiis radiantibus L. T. naſci, pariterque & caloricum & frigus e duabus C. F, & prodire lumen vel calorem, aut tenebras vel frigus, prout eminuerint L vel C, aut T vel F.

MURIAS BARYTÆ: *phosphas potasſæ, phosphas ſodæ, phosphas ammoniacæ, boras potasſæ, boras ſodæ, boras ſodæ baſicus, boras ammoniacæ, carbonas potasſæ, carbonas ſodæ, carbonas ammoniacæ.*

MURIAS POTASSÆ: fluas barytæ.

MURIAS SODÆ: phosphas potasſæ, phosphis potasſæ, fluas barytæ, fluas potasſæ, *fluas ammoniacæ? boras potasſæ, carbonas potasſæ.*

MURIAS STRONTIANÆ: phosphas barytæ, phosphas potasſæ, phosphas ſodæ, *phosphas ammoniacæ*, phosphites earundem baſium, fluas barytæ? fluas potasſæ? fluas ſodæ? boras potasſæ, boras ſodæ, boras ſodæ baſicus, boras ammoniacæ, carbonas barytæ? carbonas potasſæ, carbonas ſodæ, carbonas ammoniacæ.

MURIAS CALCIS: phosphas barytæ, phosphas ſtrontianæ, phosphas potasſæ, phosphas ſodæ, phosphas ammoniacæ, phosphas magneſiæ? phosphites earundem baſium, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potasſæ, fluas ſodæ, fluas ammoniacæ, boras barytæ, boras ſtrontianæ, boras potasſæ, boras ſodæ, boras ammoniacæ, carbonas barytæ? carbonas ſtrontianæ, carbonas potasſæ, carbonas ſodæ, carbonas ammoniacæ.

MURIAS AMMONIACÆ: phosphas potasſæ, phosphas ſodæ, phosphis potasſæ, phosphis ſodæ, fluas barytæ, fluas ſtrontianæ, fluas potasſæ, fluas ſodæ, boras potasſæ, boras ſodæ, carbonas potasſæ, carbonas ſodæ, carbonas magneſiæ? (quo duo ſalia triplicia produci videntur.

MURIAS MAGNESIÆ: phosphas barytæ? phosphas ſtrontianæ? phosphas potasſæ, phosphas ſodæ, phosphas ammoniacæ, phos-

phosphites earundem baſium, fluas barytæ? fluas potaſſæ? fluas ſtrontianæ, fluas ſodæ, fluas ammoniacæ? boras barytæ? boras ſtrontianæ? boras potaſſæ, boras ſodæ, boras ſodæ baſicus, boras ammoniacæ, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

MURIAS AM-
MONIACÆ &
MAGNESIÆ: phosphas barytæ? phosphas ſtrontianæ? phosphas ammoniacæ? phosphas potaſſæ, phosphas ſodæ, phosphites earundem baſium, fluas barytæ? fluas ſtrontianæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ? boras barytæ, boras ſtrontianæ, boras ammoniacæ? boras magneſiæ & calcis? carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

MURIAS
GLUCINÆ: phosphas barytæ? phosphas ſtrontianæ? phosphas magneſiæ? phosphas potaſſæ, phosphas ſodæ, phosphas ammoniacæ, fluas barytæ, fluas potaſſæ, fluas ſodæ, fluas ſtrontianæ, fluas magneſiæ, fluas ammoniacæ, boras barytæ? boras ſtrontianæ? boras magneſiæ? boras potaſſæ, boras ſodæ, boras ammoniacæ, carbonas calcis? carbonas magneſiæ? carbonas ſtrontianæ, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

MURIAS
ALUMINÆ: phosphas barytæ? phosphas ſtrontianæ? phosphas magneſiæ? phosphas potaſſæ, phosphas ſodæ, phosphas ammoniacæ, phosphas glucinæ, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, boras barytæ? boras ſtrontianæ? boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, carbonas barytæ? carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ.

MU-

MURIAS
ZIRCONIÆ: phosphas barytæ, phosphas ſtrontianæ, phosphas potaſſæ, phosphas ſodæ, phosphas ammoniacæ, phosphas magneſiæ, phosphas glucinæ, phosphas aluminæ, phosphites earundem baſium, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, boras barytæ? boras ſtrontianæ? boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, carbonas barytæ? carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ. carbonas ammoniacæ.

MURIAS
SILICÆ: phosphas potaſſæ, phosphas ſodæ, phosphas ammoniacæ, phosphas magneſiæ, phosphites earundem baſium, fluas ſtrontianæ? fluas magneſiæ? fluas potaſſæ? fluas ſodæ, fluas ammoniacæ, boras potaſſæ, boras ſodæ, boras ammoniacæ.

PHOSPHAS BARYTÆ: *carbonas potaſſæ, carbonas ſodæ.*

PHOSPHAS CALCIS: phosphis barytæ? fluas barytæ, fluas potaſſæ, fluas ſodæ, boras barytæ,

PHOSPHAS
CALCIS ACIDUS: phosphis barytæ, fluas barytæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, boras barytæ, boras potaſſæ, boras ſodæ.

PHOSPHAS
STRONTIANÆ: phosphis barytæ, phosphis potaſſæ, fluas barytæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, boras barytæ, boras potaſſæ, boras ſodæ, carbonas barytæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

PHOSPHAS
POTASSÆ: phosphis calcis, phosphis barytæ, fluas calcis, fluas barytæ, boras calcis, boras barytæ, carbonas barytæ, carbonas calcis.

PHOS-

PHOSPHAS SODÆ: phosphis calcis, phosphis barytæ, phosphis potaſſæ, fluas calcis, fluas barytæ, fluas potaſſæ, boras calcis, boras barytæ, boras potaſſæ, carbonas barytæ, carbonas calcis, carbonas potaſſæ.

PHOSPHAS AMMONIACÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis magneſiæ, phosphis potaſſæ, phosphis ſodæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

PHOSPHAS SODÆ & AMMONIACÆ: phosphis calcis, phosphis barytæ, phosphis potaſſæ, phosphis ſodæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas potaſſæ, fluas ſodæ, boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, boras ſodæ, boras ſodæ baſicus, carbonas barytæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

PHOSPHAS MAGNESIÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis potaſſæ, phosphis ſodæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, boras ſodæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

PHOSPHAS AMMONIACÆ & MAGNESIÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis potaſſæ, phosphis ſodæ, fluas calcis,

calcis, fluas barytæ, fluas ſtrontianæ, fluas potaſſæ, fluas ſodæ, boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, boras ſodæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

PHOSPHAS GLUCINÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis magneſiæ, phosphis potaſſæ, phosphis ſodæ, phosphis ammoniacæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

PHOSPHAS ALUMINÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis magneſiæ, phosphis potaſſæ, phosphis ſodæ, phosphis ammoniacæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, fluas glucinæ, boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ, carbonas glucinæ.

PHOSPHAS ZIRCONIÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis magneſiæ, phosphis potaſſæ, phosphis ſodæ, phosphis ammoniacæ, phosphis glucinæ, phosphis aluminæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, fluas glucinæ, boras calcis,

calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, boras glucinæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ, carbonas magneſiæ, carbonas ammoniacæ & magneſiæ, carbonas glucinæ, carbonas aluminæ.

PHOSPHAS SILICÆ: phosphis calcis, phosphis barytæ, phosphis ſtrontianæ, phosphis magneſiæ, phosphis potaſſæ, phosphis ſodæ, phosphis ammoniacæ, phosphis aluminæ, phosphis glucinæ, fluas calcis, fluas barytæ, fluas ſtrontianæ, fluas magneſiæ, fluas potaſſæ, fluas ſodæ, fluas ammoniacæ, fluas aluminæ, fluas glucinæ, fluas ſodæ & ammoniacæ, fluas ammoniacæ & magneſiæ, boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, boras aluminæ, boras glucinæ, boras zirconiæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ, carbonas magneſiæ, carbonas aluminæ, carb. glucinæ.

FLUAS CALCIS: carbonas potaſſæ, carbonas ſodæ,

FLUAS BARYTÆ: boras calcis, boras potaſſæ, boras ſodæ, boras ſodæ baſicus, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

FLUAS STRONTIANÆ: boras barytæ, boras potaſſæ, boras ſodæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

FLUAS MAGNESIÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, boras ſodæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

FLUAS POTASSÆ: boras calcis, boras barytæ, boras ſtrontianæ.

FLUAS SODÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, carbonas potaſſæ, carbonas ammoniacæ.

FLUAS AMMONIACÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, boras ſodæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

FLUAS AMMONIACÆ & MAGNESIÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras potaſſæ, boras ſodæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ.

FLUAS GLUCINÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ.

FLUAS ALUMINÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, boras glucinæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ, carbonas glucinæ.

FLUAS ZIRCONIÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ammoniacæ, boras glucinæ, boras aluminæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ, carbonas aluminæ, carbonas glucinæ.

FLUAS SILICÆ: boras calcis, boras barytæ, boras ſtrontianæ, boras magneſiæ, boras potaſſæ, boras ſodæ, boras ſodæ baſicus, boras ammoniacæ, boras glucinæ, boras aluminæ, boras zirconiæ, carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas ammoniacæ, carbonas magneſiæ, carbonas glucinæ, carbonas aluminæ.

BORAS MAGNESIÆ: carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ.

BORAS AMMONIACÆ: carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ.

BORAS GLUCINÆ: carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ.

BORAS ALUMINÆ: carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ, carbonas glucinæ.

BORAS ZIRCONIÆ: carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ, carbonas glucinæ, carbonas aluminæ.

BORAS SILICÆ: carbonas barytæ, carbonas ſtrontianæ, carbonas calcis, carbonas potaſſæ, carbonas ſodæ, carbonas magneſiæ, carbonas ammoniacæ, carbonas glucinæ, carbonas aluminæ, carbonas zirconiæ.

Sed docuerunt experimenta recentiora rariſſime in totum ſuccedere mutationes ſalium, quæ viribus affinitatum duplicium attri

attribuebantur, partemque earum plerumque priſtinam ſervare naturam, atque inſuper ea ex cauſſa incertos fuiſſe valores affinitatum a phænomenis iſtis erutos, quod non ſatis perſpectæ nedum dijudicatæ fuerint vires aliæ occulte magis, ſed efficacisſime interdum agentes. Innotuerat quidem jam BERGMANNO, quod, variata caloris temperatura, variabiles fiant in ſe mutuo corporum actiones. Propterea & ipſe & plurimi poſt illum ordines affinitatum ſimplicium duplicibus ſeriebus repræſentaverunt, quoniam, maxime per majorem nonnullarum ſubſtantiarum volatilitatem, aut majorem ad liqueſcendum pronitatem, ſæpius aliter fieri viderunt conjunctiones & disjunctiones in igne, aliter in inferioribus caloris temperaturis. Oſtendit deinde DE MORVEAU (*4q*) ſufficere non raro minores caloris diverſitates, ad immutandum ordinem attractionum electivarum, indeque concluſit, peculiarem eſſe in ipſo calore materiam, cujus affinitates in mixtionibus aliarum ſubſtantiarum conſiderare ſimul oporteat. Neque præter eum defuerunt, qui ſimilia a caloris ſubſtantia producta phænomena obſervarent. Animadverterat enim LASSONE (*4r*) *calcem* ferventi ſolutioni *tartratis alkali fixi* additam, deturbationem efficere, quæ in liquore frigido locum non habet, quod phænomenon RICHTER (*4s*). & THENARD (*4t*) confirmaverunt. HAHNEMANN (*4u*) vidit nihil in ebullitionis calore efficere *potaſſam muriati ſodæ* additam, quamvis in tepidiore temperatura acidum muriaticum aufferre eadem valeat; alia ut taceamus exempla. Variabilem quoque, pro diverſitate caloris eſſe ratio-

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4q) *Kgl. Vetenſkaps Academiens nya Handlingar* 1789. S. 22--39.

4r) *Mem. de l'Acad. Roy. des Sciences*, à *Paris*, 1773.

4s) *Neue Gegenſtände der Chymie.* 2 St. S. 118, 119.

4t) *Annales de Chimie.* T. XLI. p. 38 ſeqq.

4u) CRELL *Chemiſche Annalen* 1787. 2 B. S. 216.

rationem affinitatum duplicium demonſtraverunt SCHEELE (*4x*), qui comperit, *ſulphatem magneſiæ* una cum *muriate ſodæ* in aqua ſolutum, ſub frigore hyemis producere ſulphatem ſodæ ſolidum & cryſtallinum, & muriatem magneſiæ liquidam formam in ſolutione tenentem, in temperatura vero æſtatis nullam ſubire mutationem: GRÉN (*4y*), qui animadvertit, disjungi partes conſtitutivas *ſulphatis calcis* per admixtam in frigida temperatura ſolutionem *muriatis ſodæ*, aut *muriatis magneſiæ*, aut *carbonatis magneſiæ*, ſimiliterque partes *muriatis ſodæ* per *carbonatem calcis* vel *alumen*, ſed nullam in elevatiore temperatura fieri horum ſalium mutationem: & RICHTER (*4z*) qui vidit *ſulphatem ſodæ* & *muriatem potaſſæ* in calidiore temperatura, una ſolutos, partes conſtitutivas commutare & in muriatem ſodæ, atque ſulphatem potaſſæ converti, e contrario vero in temperatura frigidiore, per cryſtalliſationem ſecerni ſulphatem ſodæ, remanente muriate potaſſæ ab aqua ſoluto. Omnimode perſvaſus, quod ita per caloricum vel efficiantur vel mutentur affinitates, non dubitavit DE MORVEAU (*5a*), quin ex ſimilitudine aliorum, chemicis diu cognitorum, phænomenorum, id etiam facile interpretaretur, quod caloricum corporibus abundantius additum, ſeipſum nonnunquam e conſociatione expellere videatur. Quæ anomalia, cum nonnullis aliis phænomenis, irregulares effectus a calorico ſolo vix probabiliter derivandos arguentibus, anſam nobis olim (*5b*) dedit ſuſpicionis, quam hodierna corroboravit experientia, quod

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4x) CRELL *Chem. Annal.* 1785. 2 B. p. 513.

4y) Annales de Chimie T. XIII. p. 68, & CRELL *n. Entdeck. in d. Chem.* VII. Th. p. 83.

4z) *Stoechyometrie* 2 B. p. 185 & 224.

5a) l. c.

5b) *K. Vetenſk. Acad. n. Handl.* 1790. S. 97 — 106.

quod non tam a calorico, quam ab aliis aut ſimul aut ſeorſim agentibus, qua efficaciam chemicam tum fere ignotis viribus electricitatum nempe & luminis ſæpius dependeant diverſitates appetituum & averſationum inter varias ſubſtantias.

Fixerunt quoque attentionem chemici in conſideranda efficacia aquæ, qua ſoluta ſunt ſalia examinanda, quæ vero ſæpius aut ſubvenit aut obeſt conjunctioni partium ſalinarum. Dudum fuit notum, plura ſalia metallica acidum ſuum additæ aquæ tradere, demiſſo oxido metallico fere nudato. Ex pluribus ſolutionibus aquoſis ſalium baſes terreas aut metallicas habentium, ſecerni has baſes per largiter admixtam aquam obſervavit RIBAUCOURT (*5c*). Oſtenderat jam LEMERY (*5d*) quod ex unoquoque plurium ſalium commixtorum, data aquæ copia interdum majorem quantitatem ſolvere valeat, quam ex iisdem ſalibus ſeorſim æquæ additis. Quod vero nonnunquam alia ſalis ſpecies aliam ex ſolutione aquoſa dejicere valeat, explicare voluit BARON a diverſa inter aquam & ſalia affinitate (*5e*). Sed animadvertit VAUQUELIN (*5f*) ſalem, qui alios in aqua frigida ſolutos plerumque dejicere valet, per hos, inverſo ordine, in temperatura calida præcipitari. Immo perhibuerunt KIRWAN, CRELL (*5g*) aliique in analyſibus aquarum naturalium inſtituendis occupati, ſolutos in iis & commixtos reperiri ſales, qui ſine mutua deſtructione ab aqua non poſſint una ſolvi. Et cum denique non raro eveniret, ut, pro diverſa proportione, qua inter ſe mixtæ fuerint ſub-

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5c) *Annales de chimie* T. XV. p. 122.

5d) *Mem. de l'Acad. R. d. Sc.* à Paris 1724.

5e) *Mem. de Math. & de Phyſ. de l'Ac. R. d. Sc.* T. I. p. 100.

5f) *Annales de Chimie* T. XIII. p. 86 — 100.

5g) v. CRELL *Chemiſche Annalen* 1801. 1 B. p. 345 ſqq.

ſubſtantiæ a dato menſtruo ſolutæ, diverſa orirentur connubia, & diverſimode fierent ſejunctiones ſolutarum, ſperandum minime fuit, ut ex mera conſideratione mutationum per duplices affinitates productarum veræ invenirentur affinitatum menſuræ. Quin vero eas alia indagarent via, nullas intermiſerunt chemici curas.

Diu jam animis obverſata erat inæqualitas virium, quibus ſe mutuo aggredi videbantur duæ ſubſtantiæ, diverſa quantitatum proportione concurrentes, quæ certum pro inconſtantia affinitatum argumentum non pauc's fuit. Quo itaque juſta haberetur comparatio affinitatum inter plures ſibi mutuo oppoſitas ſubſtantias, neceſſarium fuit, ut ſimilis eſſet ſingularum conjunctionum conditio. Et cum in ſalibus neutris perfectum ubique adeſſet inter acida atque baſes æquilibrium, conſiderandæ erant vires, quibus, in neutris ſive ſaturatis ſalibus, illæ ſubſtantiæ inter ſe jungantur vel junctæ teneantur. Tum autem, quia non poſſit non actio quæcunque a quantitate agentis dependere, admodum probabile fuit, proportionem quantitatum, quibus binæ ſubſtantiæ ſeſe mutuo ſaturare valeant, veram indicare debere affinitatis inter easdem menſuram. Attamen non facile fuit dijudicatu, quomodo menſura hæcce æſtimaretur: cum neque de definienda proportione partium in ſalibus neutris inter ſe convenirent chemici. Docuerat jam Cel. H. T. SCHEFFER, in lectionibus publicis, annis 1749, 1750, 1751 habitis (*5h*), eam obtinere in compoſitione ſalium legem, ut ad ſui ſaturationem *alkalia majores ex acidis fortioribus & ponderoſioribus poſcant quantitates, minores ex infirmioribus & levioribus.* Oſtenderat enim, quod fugato, vi acidi ſulphurici, acido muriatico e 16 partibus muriatis ſodæ de-

5h) SCHEFFERS *Chemiſke Föreläsningar, utgifne af* T. BERGMAN Upſala 1775. S. 65—67.