

# Prosthetics I.

## Rehabilitation of the masticatory apparatus

# Function of dentition

- Food admission
- Trituration (comminution) of food
- Phonation
- Aesthetics - psychology

# Consequences of lost teeth

- Bad comminution of food – bad digestion – irritation, diseases of the digestion apparatus.
- Bad fonation
- Psychological aspect of lost teeth
- Disorders of TMJ

# What is prosthetic treatment?

- Reconstruction of:

**Damaged teeth**

– *reconstruction of the crown*

**Missing teeth**

- *appropriate prosthesis (denture)*

# Prosthesis

- Individually made
- Differences
  - in the type of defect, extent and location
  - in the size, shape and position of teeth
  - in the quality of hard and soft tissues of the oral cavity
  - in intermaxillary relations

# Prosthesis (denture)

Rehabilitation of:

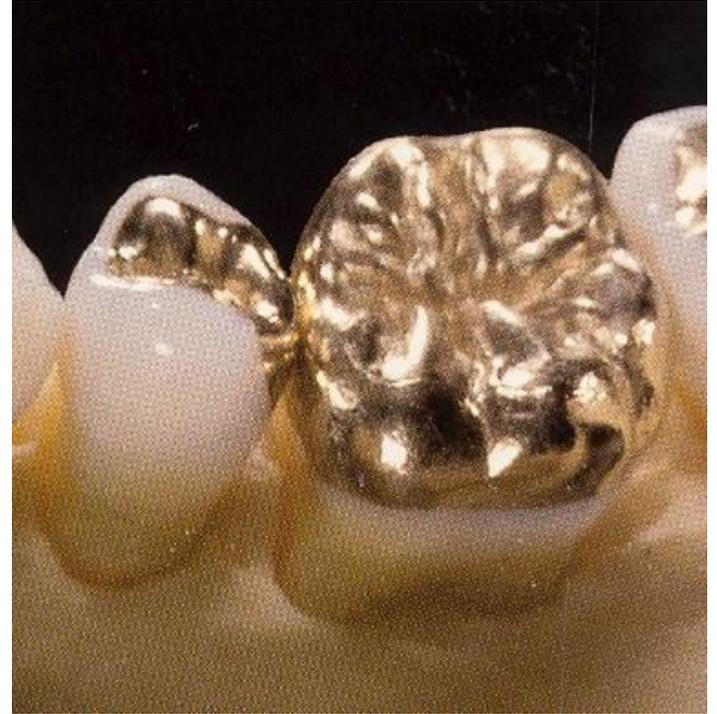
- Function
- Comfort
- Aesthetics
- Phonation

# Inlays

Composit, cermic

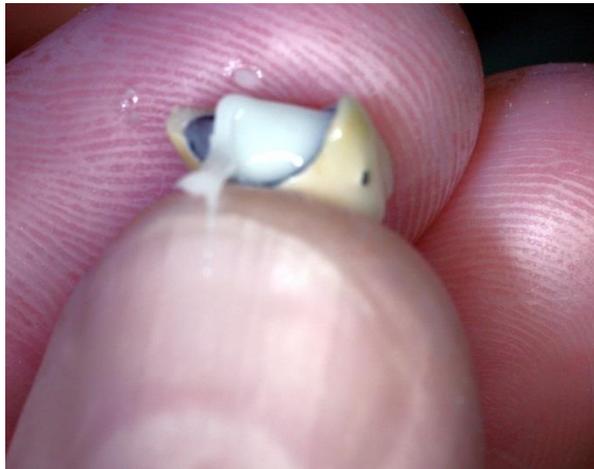
Metal





# Fixed dentures

- Cemented on the teeth – crowns, bridges, inlays



Fixed bridge

# Fixed dentures

- Material – metal alloy, ceramics



# Removable dentures

- Partial
- Complete (full)



# Procedures

- In dental surgery
- In dental laboratory
- Special instruments
- Basic (main) materials  
*(metal alloys, ceramics, polymers)*
- Auxilliary (accessory) materials  
*(impression, carving, die, insulating investing, grinding, polishing)*

# Manufacturing of dentures

Model of gypsum (plaster) – model of a denture (wax pattern).

Model of a denture (wax pattern) directly in the mouth – rarely.

Denture is formed without a wax pattern in the dental lab.

# Manufacturing of dentures

Model of gypsum (plaster) – model of a denture (wax pattern).

# Impressions of the dental arch- negativ

The impression is filled with a casting material (gypsum) – poured into



Model  
(various purpose)

# Models

- Working model – the denture is produced on this model (special procedures)
- Opposing model (antagonal) - necessary for the recognition of intermaxillary relationship
- Bite registration - wax

# Manufacturing of dentures

- The denture (not the denture itself but the model of the denture) is produced on the working model.
- The model of the denture is made of the carving wax.
- The wax is replaced by the main (base) material.

# Fabrication of dentures

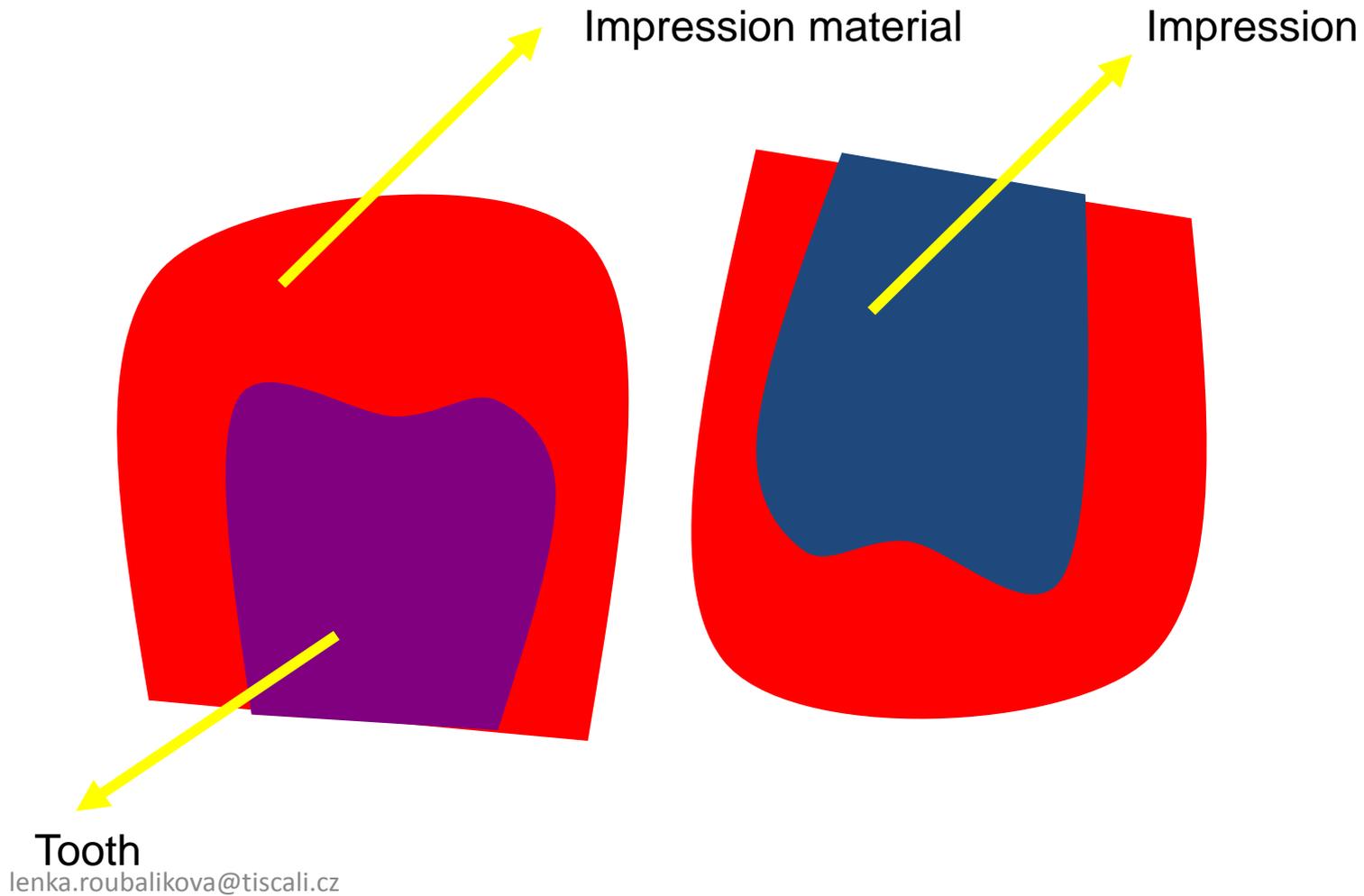
The model (wax) of the denture is invested

The wax is removed from the form and the base material is placed into the form.

*Wax removal:*

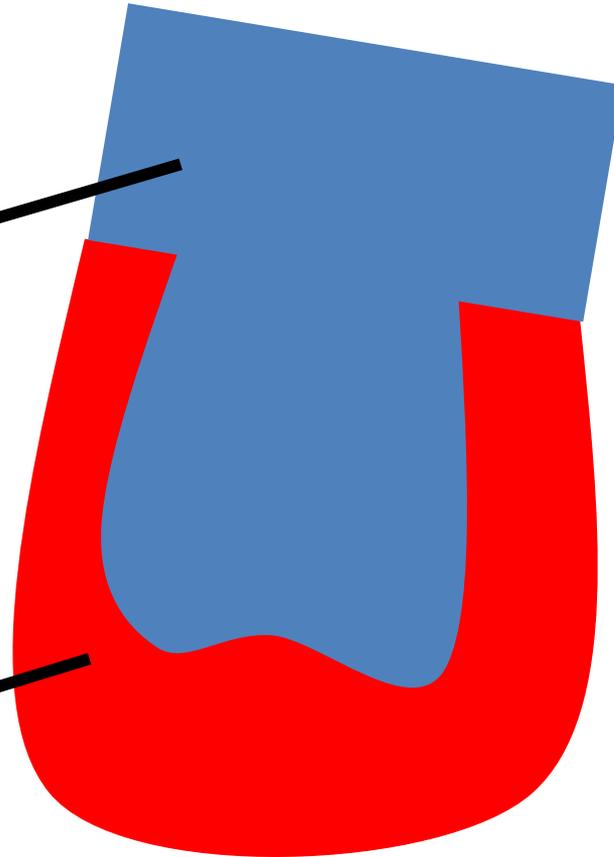
*The wax is burned out (for metal alloys)*

*or removed by hot water (for polymers)*

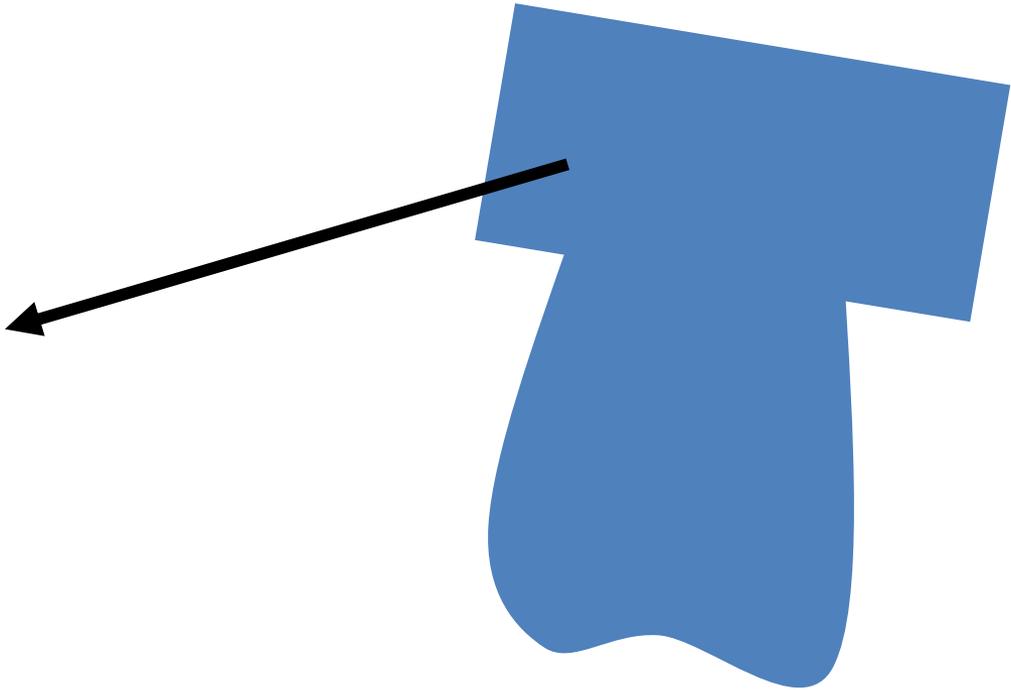


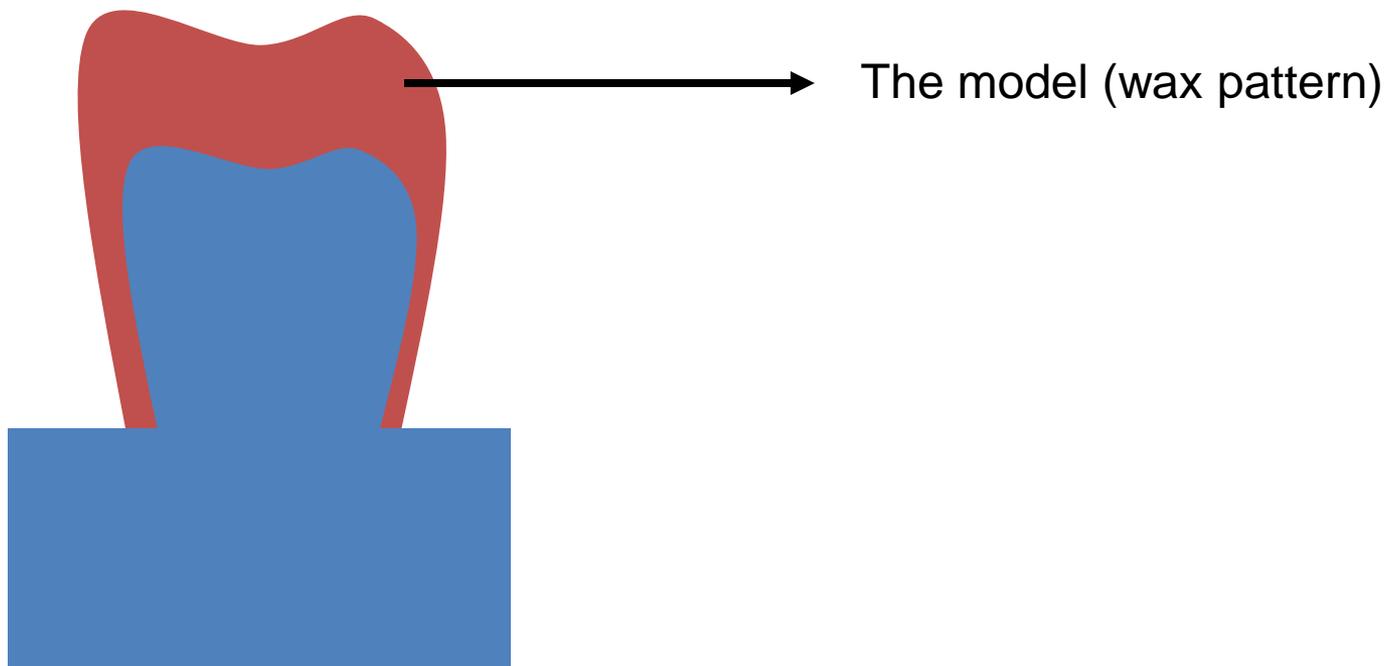
Gypsum

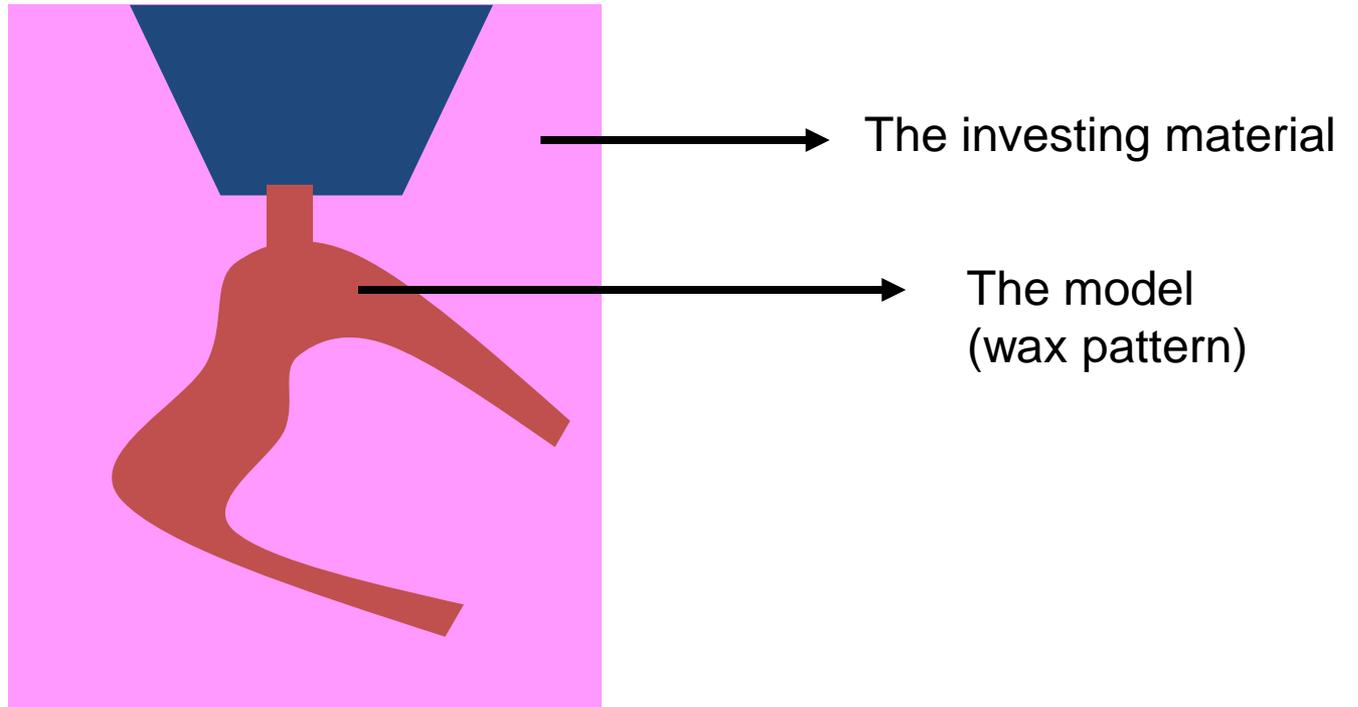
Impression

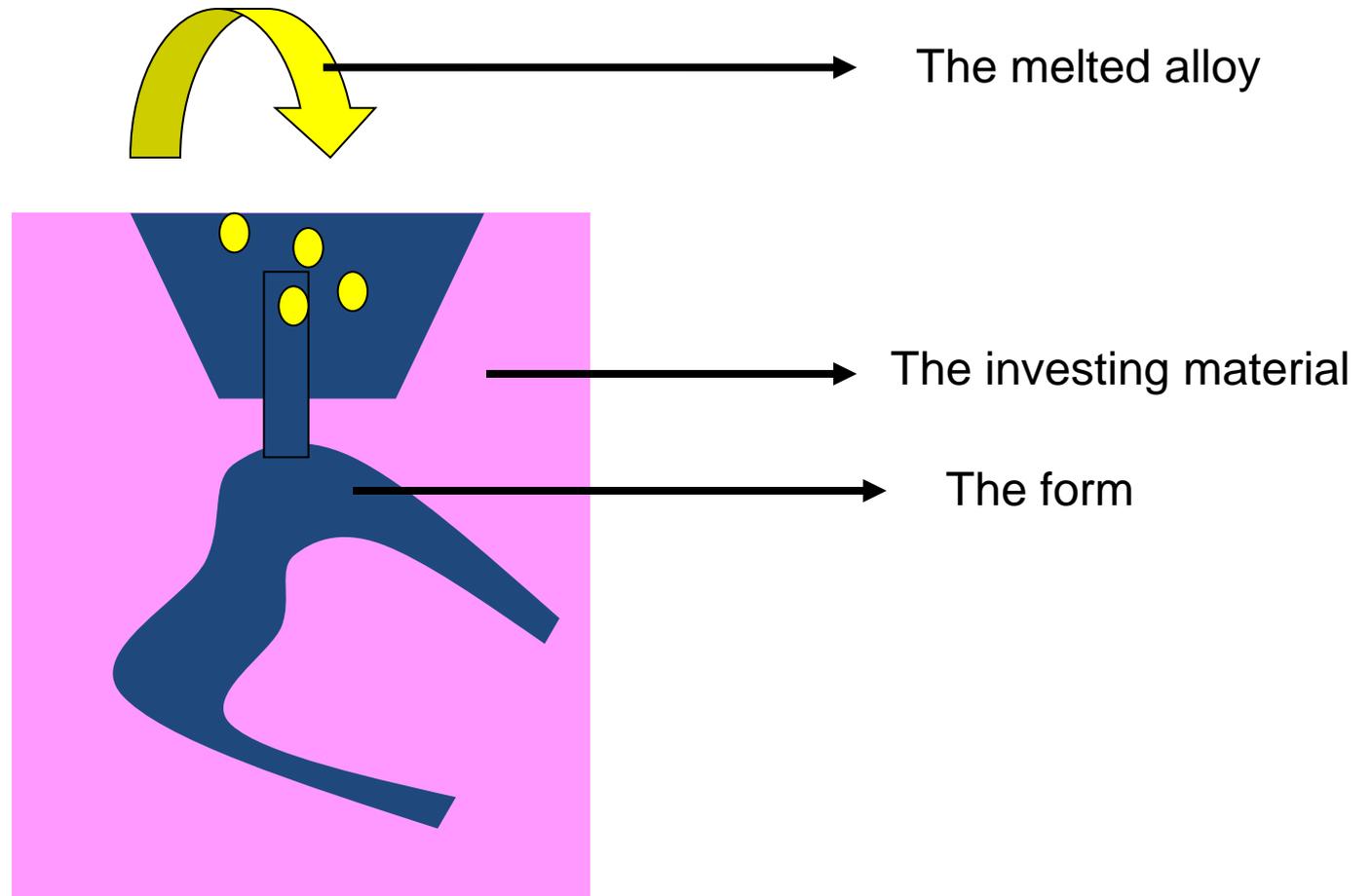


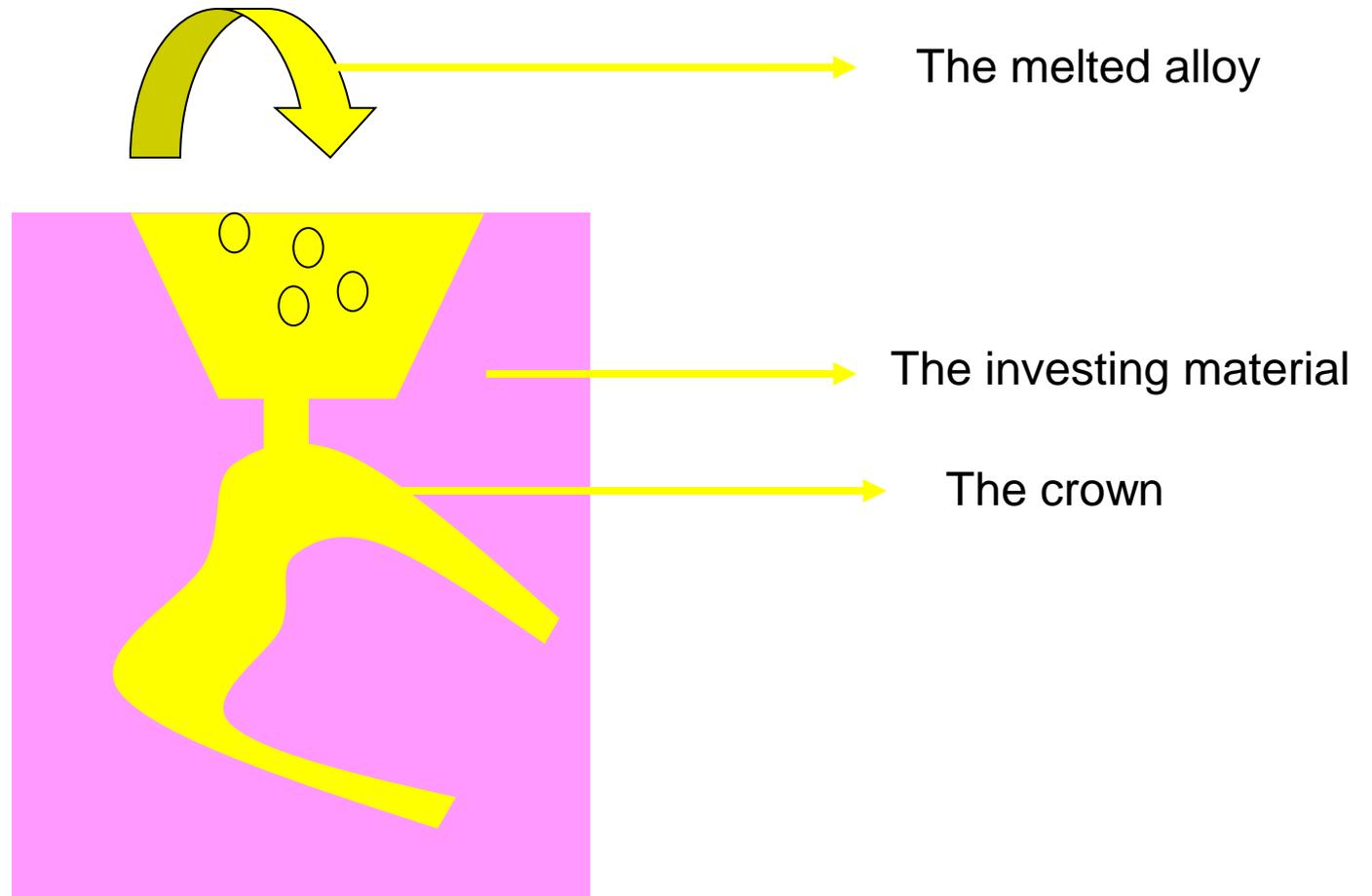
Plaster

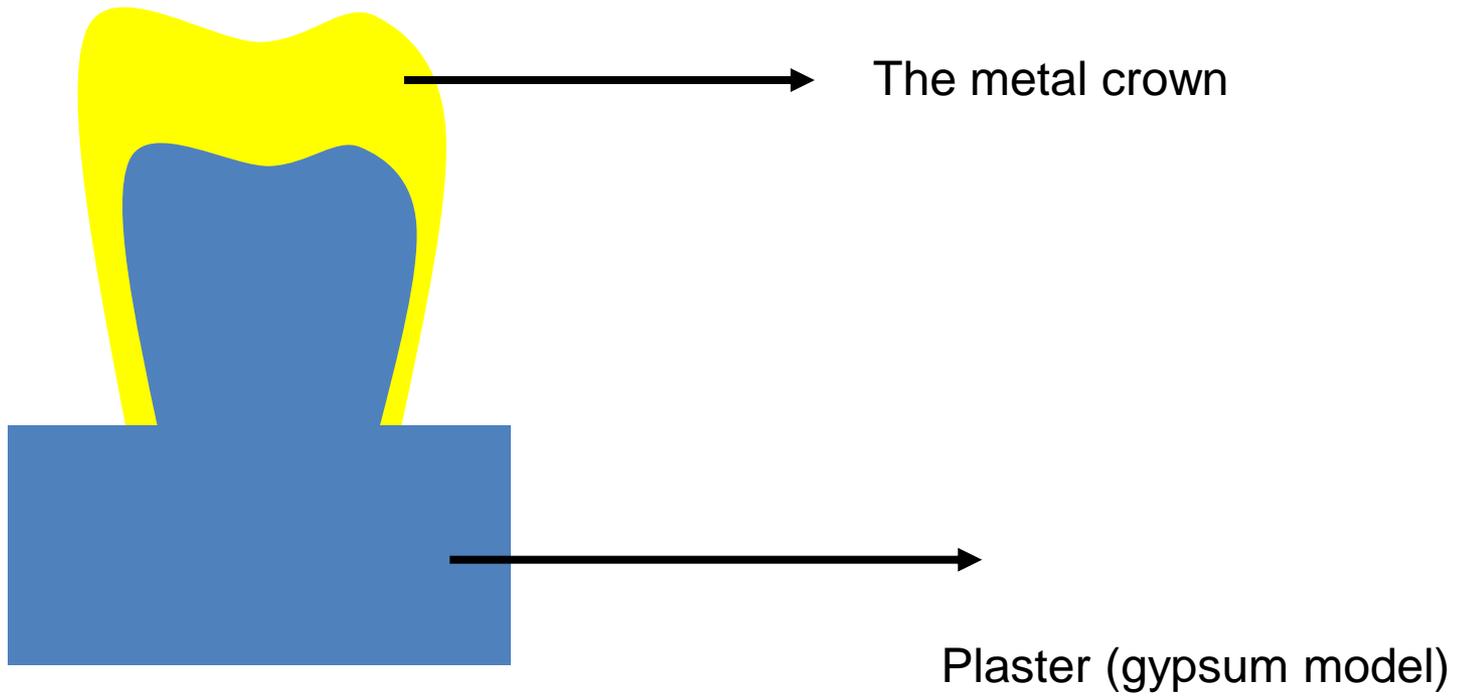






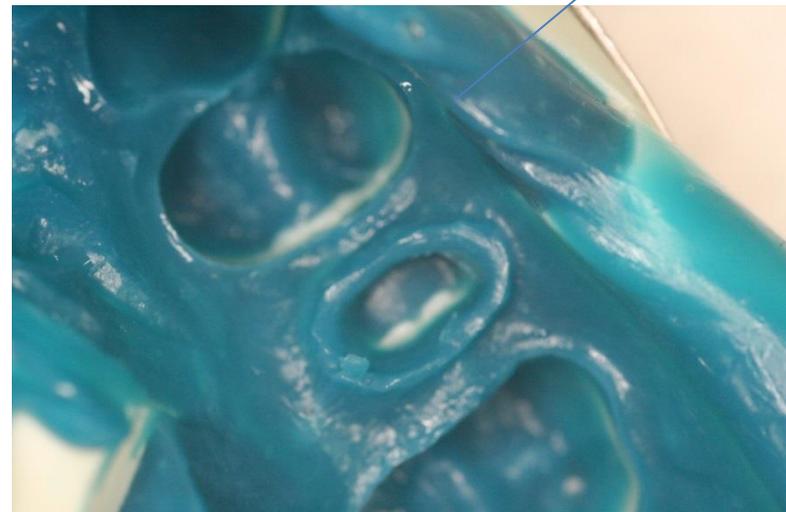






# Manufacturing of dentures

The method described above = indirect method



# Manufacturing of dentures

## Direct method

# Manufacturing of dentures

## Direct method

No impression

The model of the denture is made directly in the mouth

For inlays only

# Planning of the denture

## Complex examination - consideration

1. Extent and location of the defect
2. Damage of the involved teeth (caries, fillings atc.)
3. Periodontium
4. Shape, size, position of teeth, relationship to the neighbours
5. Occlusion, articulation – relationship to the antagonists
6. Quality of the alveolar process
7. The level of oral hygiene
8. X-ray examination
9. Study impressioons – study models
10. Detail evaluation of the abutment teeth (pilots) – most impoprtant teeth –canines, premolars

# Classification of defects acc. To Voldřich

## I. Class

One or more teeth are missing

Small gaps – 1 – 2 teeth

Big gaps 3 – 4 teeth at most. This big gaps must be demarcated by pilot of the best quality. (canine, 1st or second molars – pilots of 1st class or their equivalents)

# Classification of defects acc. To Voldřich

## II. Class

Reduced dental arch, then last tooth is the second premolar, first premolar or canine

With gaps

Without gaps

Bilateral

Unilateral

# Classification of defects acc. To Voldřich

## III. Class

Individual teeth or small groups of teeth

# Classification of defects acc. To Voldřich

## IV. Class

Edentulous jaw

# Classification of pilot (abutment) teeth

Pilots I. class

Canines

Molars (1st, 2nd)

# Classification of pilots (abutment) teeth

Pilots II. class

Incisors - maxillary incisors, premolars

# Classification of pilots (abutment) teeth

Pilots III. class

Mandibular incisors, third molars, all teeth  
with bad biological factor

# Biological factor

- Caries
- Pulp vitality
- Level of the endodontic treatment
- Level of the resorption of the alveolar bone
- Periodontium
- Relationship to antagonists
- Relationship to neighbour teeth

# Way of the transfer of masticatory forces

- Tooth
- Tooth and oral mucosa
- Oral mucosa
- Implants – bone (special not too similar to tooth)